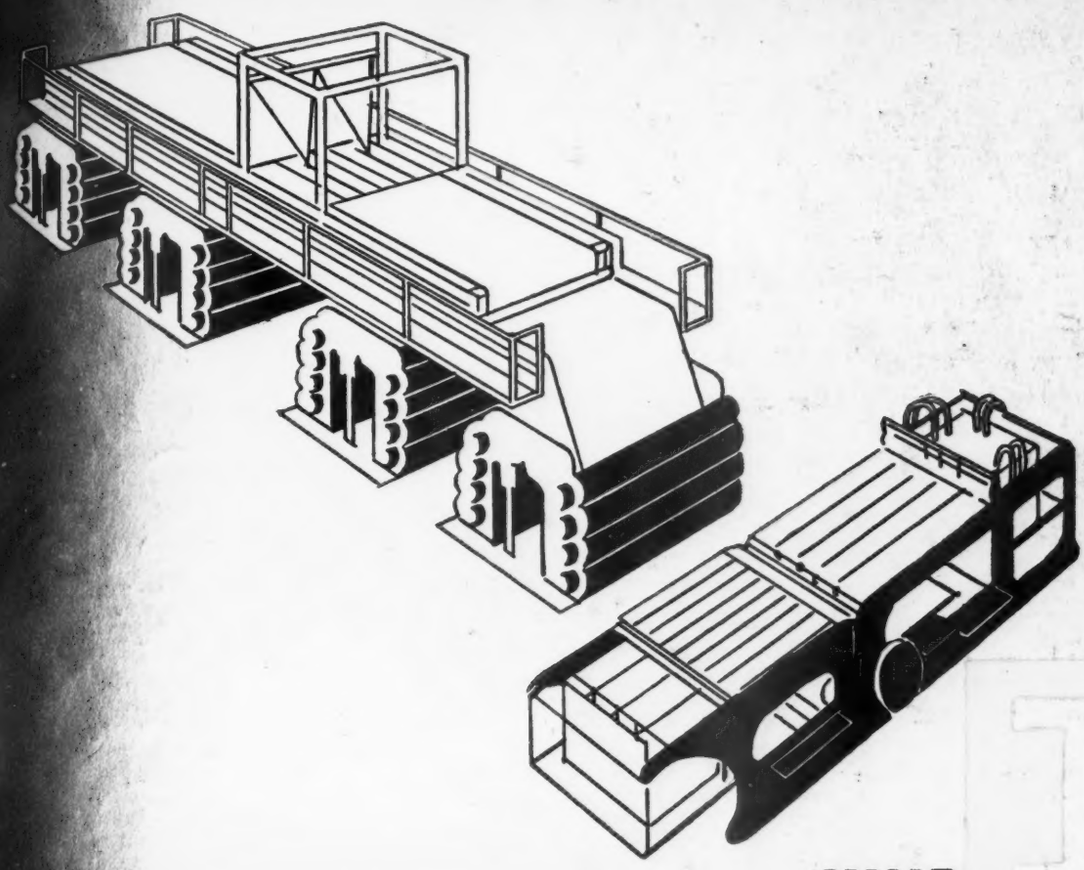
PRINTING EQUIPMENT ENGINEER



JUNE 1937

A TECHNICAL PUBLICATION FOR PRODUCTION AND MECHANICAL EXECUTIVES IN THE GRAPHIC ARTS INDUSTRY

The CLINE ELECTRIC MANUFACTURING CO.

Welcomes the . . . A.N.P.A. MECHANICAL DIVISION *to Chicago*

THE Cline engineers appreciate the cooperation they have had from newspaper mechanical departments during the last quarter of a century, in the development of press power control and paper web control, to meet the ever increasing demands of the various pressroom developments. The result has been practical as well as efficient press drives for A.C. and D.C. power in both group and Unit drives designed to meet local conditions.

Cline Unit drives have been sold for about 135 Octuple presses in the United States alone.

Cline Reels have been standardized for pedestal or press column mounting.

Cline Electric Tensions provide automatic control of the web, adjustable at the press unit only, and correlated with the power requirement and braking of the press to control the web, over 125 have been sold in the United States.

Cline High Speed Pasters involve no complication or interference with the press webs and are operated by a single push button. About 100 of these have been sold in the United States.

LIST OF CLINE EQUIPMENT

Cline System of Full Automatic Press Control

•

Cline-Westinghouse Mercury Arc Current Rectifiers

•

Cline Capital Roll Lift and Lowerator

Cline System Paper Reels and Automatic Electric Tensions

•

Cline-Westinghouse Stereotype Motor Equipment

•

Cline-Westinghouse Typesetting Drives

Cline High Speed Pasters

•

Cline-Westinghouse Motor Equipments for Fans, Pumps, etc.

•

Cline-Capital Plate Dropper

Cline Selective Unit Type Drives for Unit-type Presses

•

Cline Capital Paper Trucks, Tracks, Transfer Tables, etc.

•

Cline Capital Plate Conveyor

CLINE ELECTRIC MFG. CO.

MAIN OFFICE: 211 W. WACKER DRIVE, CHICAGO, ILL.

Western Office
CROCKER FIRST NAT'L BK. BUILDING
SAN FRANCISCO

CLINE SYSTEM — QUALITY · SPEED · SERVICE · FAME — CLINE ELECTRIC MFG. CO. CHICAGO — CLINE-WESTINGHOUSE

Eastern Office
220 EAST 42nd STREET
NEW YORK CITY

A CONTROLLING FORCE

The Autoformer has become **a great controlling force** in the production of **Quality Printing. The Autoformer** has swept on and on, slowly gathering momentum—so phenomenal as to **set it apart** from all other means of forming and drying mats. **New depths of demand have been created** —the tempo now changes. Primitive Scorchers curtail production, produce **distorted casting face,** increase make-overs in plates and mats—why continue the primitive way wasting time and money.

STAHI NEWSPAPER SUPPLY COMPANY, INC.

1020 CROCKER STREET
LOS ANGELES, CALIF.

538 So. CLARK ST.
CHICAGO, ILLINOIS

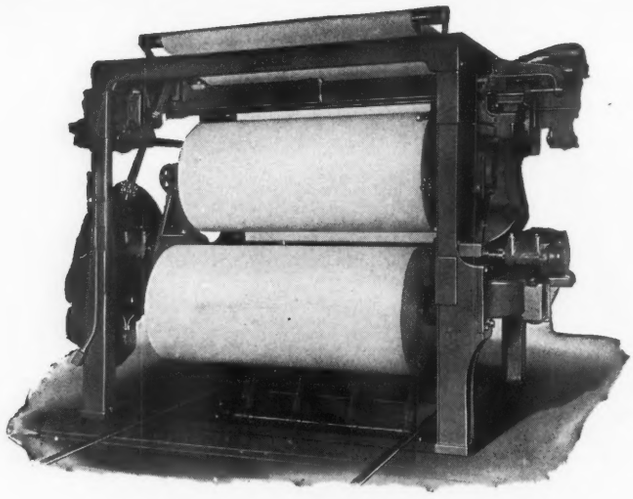
417 OREGONIAN BLDG.
PORTLAND, OREGON

AGENCIES:

GOSS PRINTING PRESS COMPANY, Chicago, New York, San Francisco
CERTIFIED DRY MAT CORPORATION, 342 Madison Avenue, New York
DUPLEX PRINTING PRESS COMPANY, Battle Creek, Michigan
WOOD FLONG CORPORATION, Hoosick Falls, New York
BURGESS CELLULOSE COMPANY, Freeport, Illinois
R. HOE & COMPANY, New York, Boston, Chicago, San Francisco
WOOD NEWSPAPER MACHINERY CORPORATION, New York, N. Y.

Foreign Agencies:

GOSS PRINTING PRESS COMPANY of London, England
A. M. CARNEIRO & COMPANY, New York, N. Y.
TORONTO TYPE FOUNDRY COMPANY, Ltd., Toronto, Montreal, Winnipeg, Canada



In the accompanying picture the Autopaster and the Autoreel are combined in a single mechanism; but the Autopaster can be applied to any other make of reel

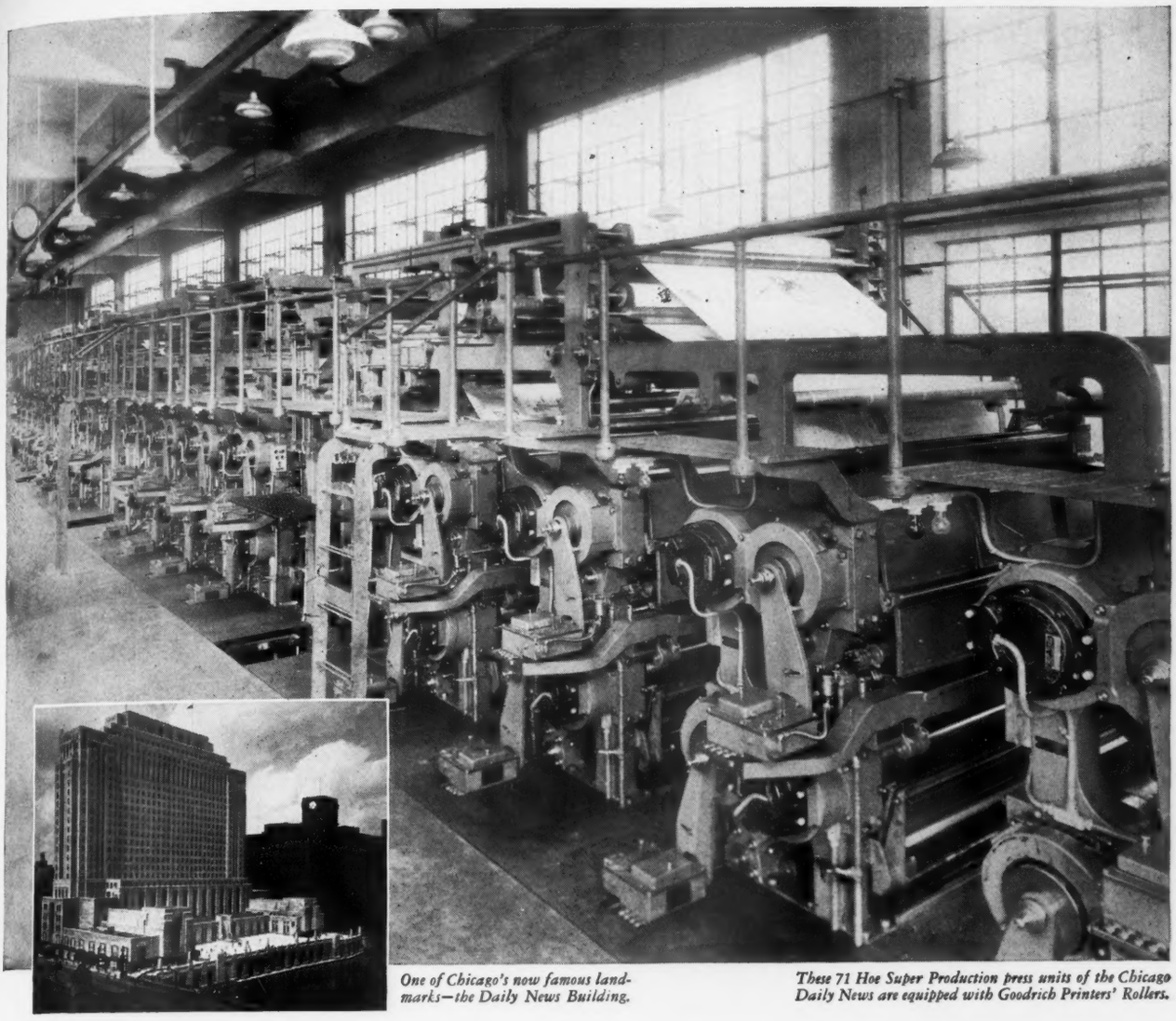
Autopaster Records Prove Dependable Operation

AUTOPASTERS can be relied upon to save time when time is precious. On presidential election night, 1936, the Autopasters used by the *New York Times* spliced automatically at full speed 385 paper rolls out of 385 rolls run on its fast Wood presses. Thus this newspaper was able to operate its fast Wood presses continuously at full speed without a single slow-down for paper replenishment throughout the whole of this most important run. Wood Autopasters are sure-fire and dependable, as their users will testify.

USERS

NEW YORK TIMES
PHILADELPHIA EVENING BULLETIN
TORONTO STAR
CHICAGO TRIBUNE
JERSEY CITY PRINTING COMPANY
LONDON DAILY MAIL
LONDON DAILY MIRROR
POLITIKEN, COPENHAGEN
NEW YORK POST
PHILADELPHIA INQUIRER
SEATTLE TIMES
ALCO GRAVURE, INC.
EL MUNDO, BUENOS AIRES
ODHAMS LTD., LONDON
TRUTH AND SPORTSMANS LTD., SYDNEY, AUSTRALIA
LONDON EVENING STAR

WOOD NEWSPAPER MACHINERY CORPORATION
PLAINFIELD, N. J. NEW YORK OFFICE, 501 FIFTH AVENUE



One of Chicago's now famous landmarks—the Daily News Building.

These 71 Hoe Super Production press units of the Chicago Daily News are equipped with Goodrich Printers' Rollers.

Goodrich Rollers Serve Chicago Daily News Seven Years Without Replacement

IN 1930 the Chicago Daily News installed 938 Goodrich Printers' Rollers on their 71 Hoe Super Production press units. These rollers have now been in use seven years and to date not one has been replaced. What's more, every one of these 938 rollers is still in excellent condition and good for many more years' service.

Goodrich Rollers last longer because their highly polished surface is easily maintained by occasional regrinding. They reduce printing costs by eliminating shut-downs for wash-up and resetting—make for quality printing every month in the year because they are not susceptible to temperature changes.

You can print a better-looking newspaper for less if your presses are equipped with Goodrich Printers' Rollers. Proof of this fact will be found in the pressrooms of the nation where more of these rollers are in use, today, than all other makes combined. Certainly, you could ask no more conclusive evidence of product superiority.

But seeing is believing. Why not visit the pressrooms of some of these Goodrich users? See them in action and draw your own conclusions. You can obtain a list of users in your locality, along with complete information on Goodrich Rollers, by writing Niles and Nelson, Inc., New York.

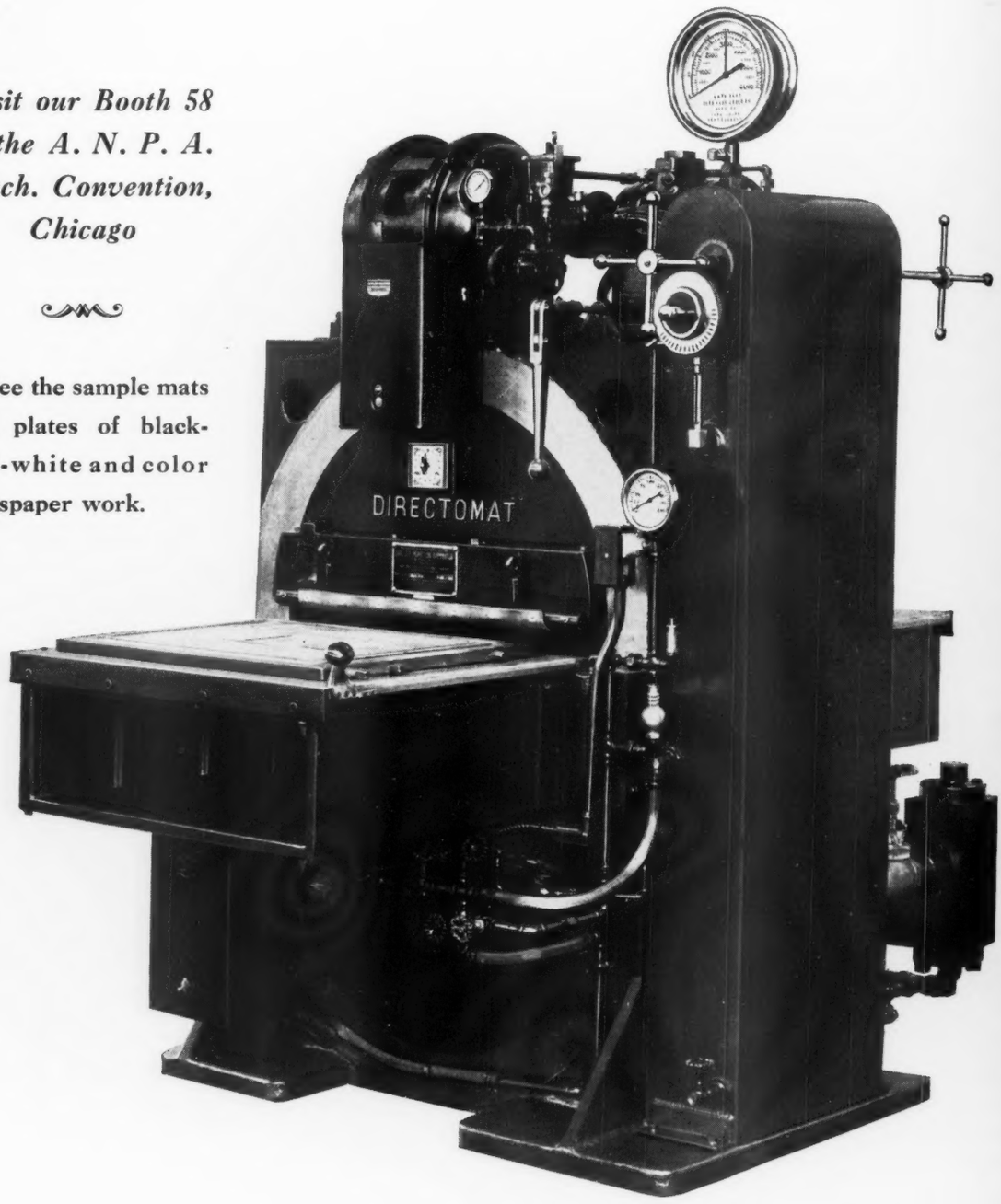
NILES & NELSON, INC., EXCLUSIVE DISTRIBUTORS
75 West Street, New York · 400 West Madison Street, Chicago, Ill.

Goodrich *Printers'* Rollers

The DIRECTOMAT Hydraulic Matrix Press

has the capacity of TWO matrix rollers while requiring the space of only ONE roller. Built to give many years of efficient, trouble-free service, the DIRECTOMAT produces consistently mats of superior quality both for black and white and color newspaper work. Fifty installations!

Visit our Booth 58 at the A. N. P. A. Mech. Convention, Chicago



● See the sample mats and plates of black-and-white and color newspaper work.

LAKE ERIE STEREOTYPE EQUIPMENT CORPORATION

Division of Lake Erie Engineering Corp. **Kenmore Station, Buffalo, N. Y.**

Flint Inks

A step ahead...

Products of ceaseless research, advanced process, efficient equipment, and progressive thought. Dedicated to better printing . . . everywhere.

Howard Flint Ink Company

DETROIT • HOUSTON • CHICAGO • NEW ORLEANS • INDIANAPOLIS • DENVER

1 8 5 4 ★ 1 9 3 7

83 years old

...and still going strong!

★

Blatchford

METAL

LINO • MONO • INTERTYPE
LUDLOW • AUTOPLATE • STEREO

E. W. BLATCHFORD COMPANY

900 West 18th Street
CHICAGO

63 Park Row
NEW YORK

Monotype Users Are 'Tops'

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SINGLE TYPE BEST FOR COMPOSITION OF ADS AND HEADS

These Machines Cut Cost Of Composition In Many Composing Rooms:

Monotype Giant Caster

Casts Type and Spaces in all sizes from 14 to 72 point (84 point title line), and 'precision' metal furniture of any desired length in all sizes from 14 to 72 point.

Monotype-Thompson Type-Caster

Makes Type and Spaces in all point sizes from 6 to 48 point, Quotation Quads, Ornaments, etc.

Monotype Material Making Machine

Makes Strip Rules, Ornamental Borders, Leads and Slugs in a variety of sizes from 1 to 18 point.

Monotype Type-&-Rule Caster

Makes Type and Spaces, Ornaments, etc., in all sizes from 4 to 36 point; Strip Rules, and Leads and Slugs from 1½ to 12 point.

Dailies Operating Monotype Equipment Win Three First Prizes in Annual Contest For the Francis Wayland Ayer Trophy

CONTESTANTS JUDGED AND AWARDS MADE FOR TYPOGRAPHIC EXCELLENCE OF FIRST PAGE

Los Angeles Times Awarded First Prize

The high honors for papers above 50,000 circulation went to the Los Angeles Times, with equipment including the Monotype Giant Caster, Monotype Type-&-Rule Caster and Two Monotype Material Making Machines.

Second Place to New York Herald Tribune

Close on the heels of the winner, for second place, came the New York Herald Tribune, now operating the Monotype Giant Caster, Monotype Type-&-Rule Caster, Two Monotype Material Making Machines, Monotype-Thompson Type-Caster.

Des Moines Register & Tribune Places Third

Des Moines Register & Tribune finished in third place. It uses Two Monotype Giant Casters and Two Monotype Material Making Machines in its composing room.

For full information and details concerning the use of Monotype equipment in daily newspaper composing rooms, write to the Lanston Monotype Machine Company, 24th and Locust Streets, Philadelphia, Penna.

Single Types Serve Both Readers and Advertisers

UNEQUALLED!

Scott Units

Scott Folders

Scott Reels

Scott Pasters

Scott Units — Superior printing—sustained high speed—modern oil enclosures—convenient—safe—reliable.

Scott Folders — Exclusive 3 to 2 Ratio design gives widest range of products—neatest folding—non-chokable—safe.

Scott Reels — Jones Automatic Tension Governor——instantaneously responsive—no belts, straps or electric complications.

Scott Pasters — Automatic web splicing at all speeds—core drive, core brakes—nothing on surface of roll—easy to operate.

All these features, found only in Scott Presses, assure users the fastest running speeds with safety and the maximum obtainable production of well printed, neatly folded newspapers.

"Fastest in the World—Bar None"

WALTER SCOTT & COMPANY

New York Office
230 West 31st Street

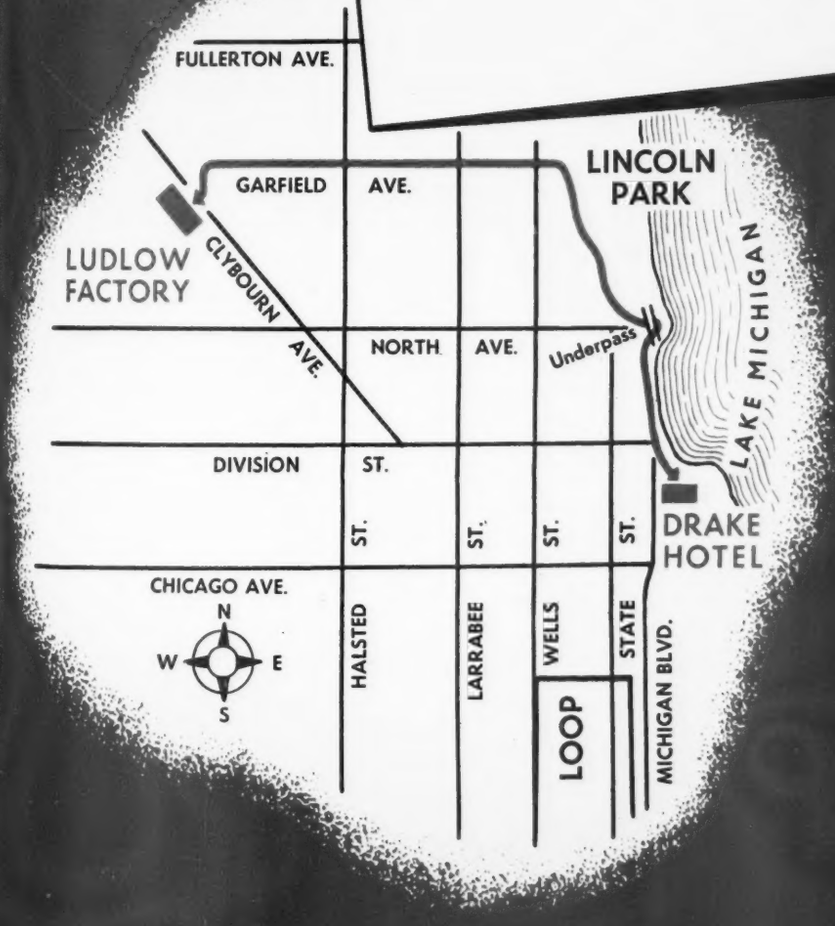
Plainfield, New Jersey

Chicago Office
1339 Monadnock Block

You Are Invited

most cordially to visit the Ludlow factory during the course of the annual A.N.P.A. Mechanical Conference at Chicago, June 7-9.

10 minutes from the Drake Hotel.
Transportation will be provided.



While in Chicago, be sure to visit the Ludlow factory. It's easily accessible—away from congested traffic—only a few minutes from the Drake Hotel. Ask any Ludlow representative at our working exhibit in the Drake Hotel, and he will be glad to arrange transportation to and from the plant.

TAKE A TRIP . . . . .

Behind the Scenes

Come out to the Ludlow plant during the convention. It won't take long, and we feel you will find it interesting. One of our representatives will be glad to arrange everything. A car will pick you up at the hotel, take you to the factory, and bring you back to the hotel.

At the factory, you will be escorted through the various departments and shown how Ludlow and Elrod machines and matrices and molds are made. Each step in the manufacturing and designing processes will be explained by a well-informed executive, and there will be someone on hand to demonstrate the operation of the Ludlow system.

You can see for yourself the many interesting features of the very latest Ludlow and Elrod equipment. First-hand knowledge, gained in this way will enable you to make a better check-up on your present methods of handling display composition.

Learn why **Ludlow** operates so simply and dependably—

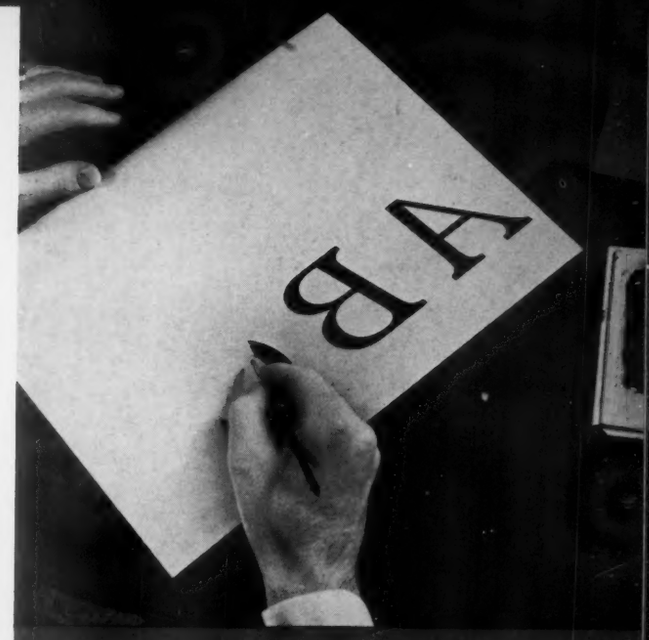
A trip through our factory will give you a clear conception of the Ludlow's simplicity in design and in construction, which makes for a simplicity of operation contributing largely to smooth and economical production of display composition.

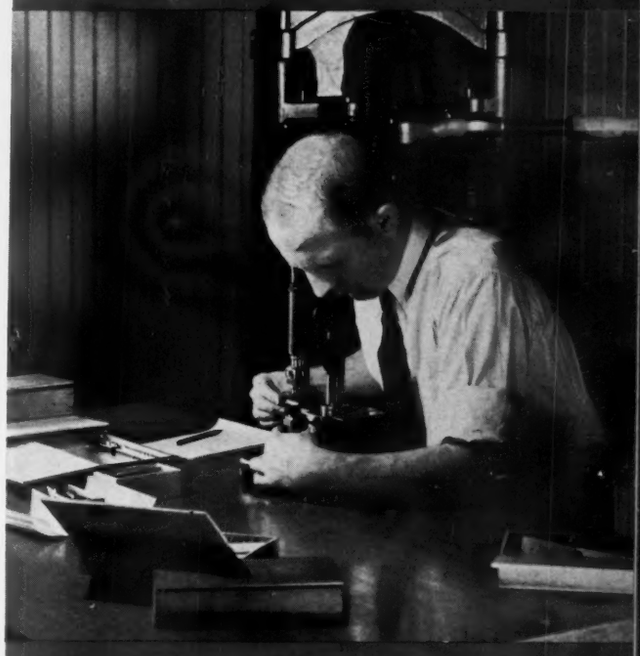
Because of its simplicity of mechanism and operation, the Ludlow has true flexibility. The Ludlow compositor can concentrate exclusively on setting and spacing matrices, free from worry over mechanical adjustments or changes, his sole responsibility being to give advertisers resultful set-ups.

In the care taken by the factory in the production of machine parts, you will find the explanation of the Ludlow's day in and day out reliability.

In the pains taken with the original drawings, with the making of patterns and checking of punches under microscopic enlargement, you will discover some of the reasons making for quality and effectiveness of Ludlow typefaces in display composition.

The way work is done in our plant affects to an important degree the efficiency, economy, and ease with which a mechanical executive can handle his own day's work. We believe, therefore, that you will be interested in observing our efforts to manufacture equipment which will successfully meet your own requirements.

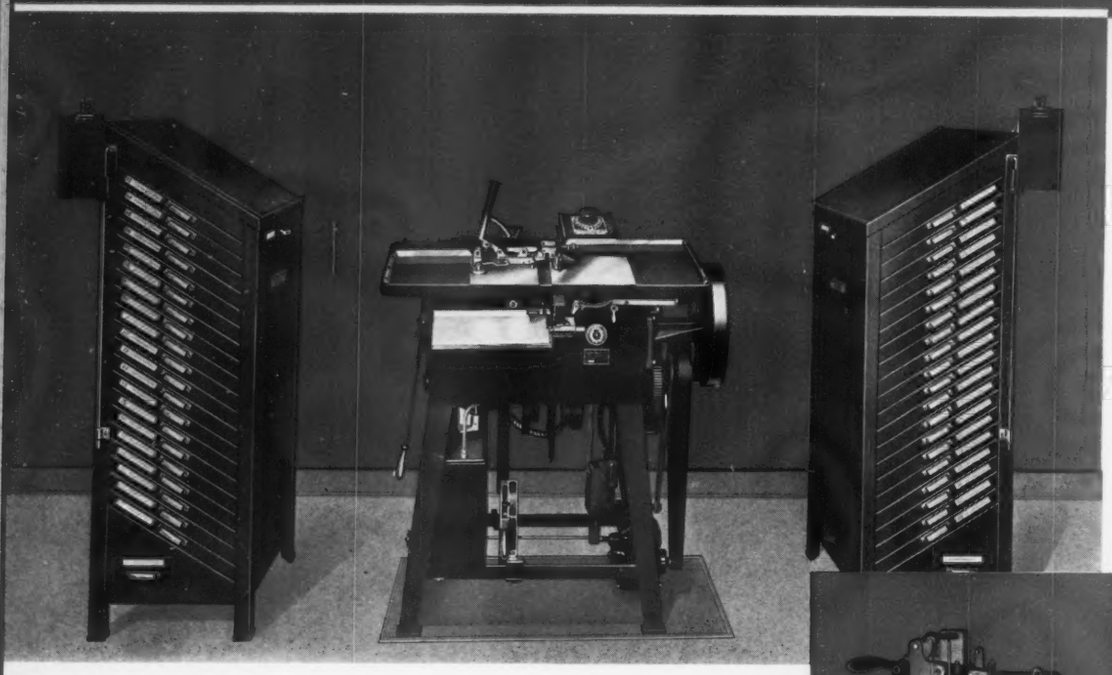




The picture at the top shows a new typeface design being painted in on the pattern plate. The center view shows matrix punches being checked under a microscope. The bottom picture shows the frame of a Ludlow being drilled.

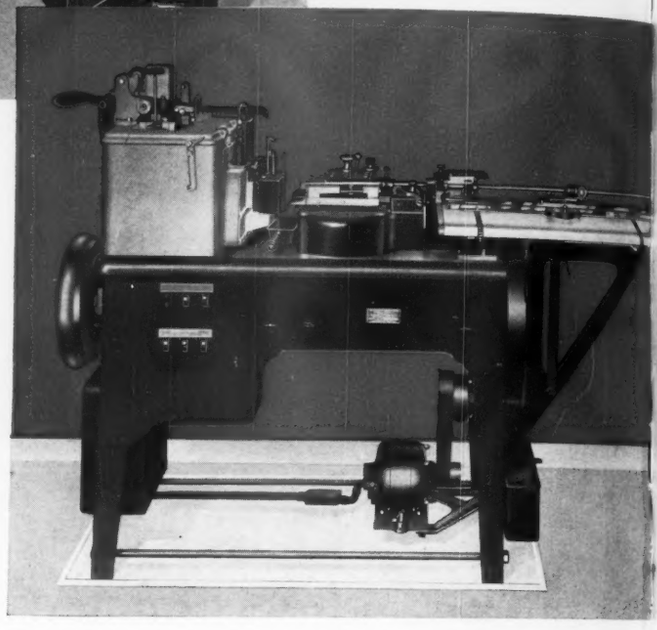
LUDLOW TYPOGRAPH COMPANY

2032 Clybourn Avenue + + + Chicago, Illinois



Left: A completely-equipped Ludlow and two cabinets of matrices

Below: The Elrod lead, slug, rule and base caster



Ludlow . . . . and the Elrod

At the Ludlow factory you will also have opportunity to see the various steps in the manufacture and assembly of the Elrod lead, slug, rule and base caster—another essential piece of composing room equipment exceedingly simple in operation and mechanism.

When you observe the care and precision governing every step in the manufacture of the Elrod, you will appreciate why this machine constitutes such a sound composing room investment.

Seeing the Elrod producing strip material will demonstrate also the simplicity of its operation. You will observe how easily and rapidly the machine turns out strip material ranging from 1 point to 36 points in thickness, with the minimum of operator attention.

You can also observe and test the quality and solidity of the material produced: continuous strip free from brittle breaks and welds; sturdy base that stands up under the most severe stereotyping pressure to which it will ever be subjected.

LUDLOW TYPOGRAPH COMPANY

2032 Clybourn Avenue, Chicago

Set in Ludlow Karnak family, Hauser Script and Mayfair Cursive

TO PUBLISHERS WHO ARE WORRIED ABOUT *Page Costs*

A serious study of average slug sawing and strip mitering time, which contributes to advertising page makeup, may point the way to lower page costs for you.

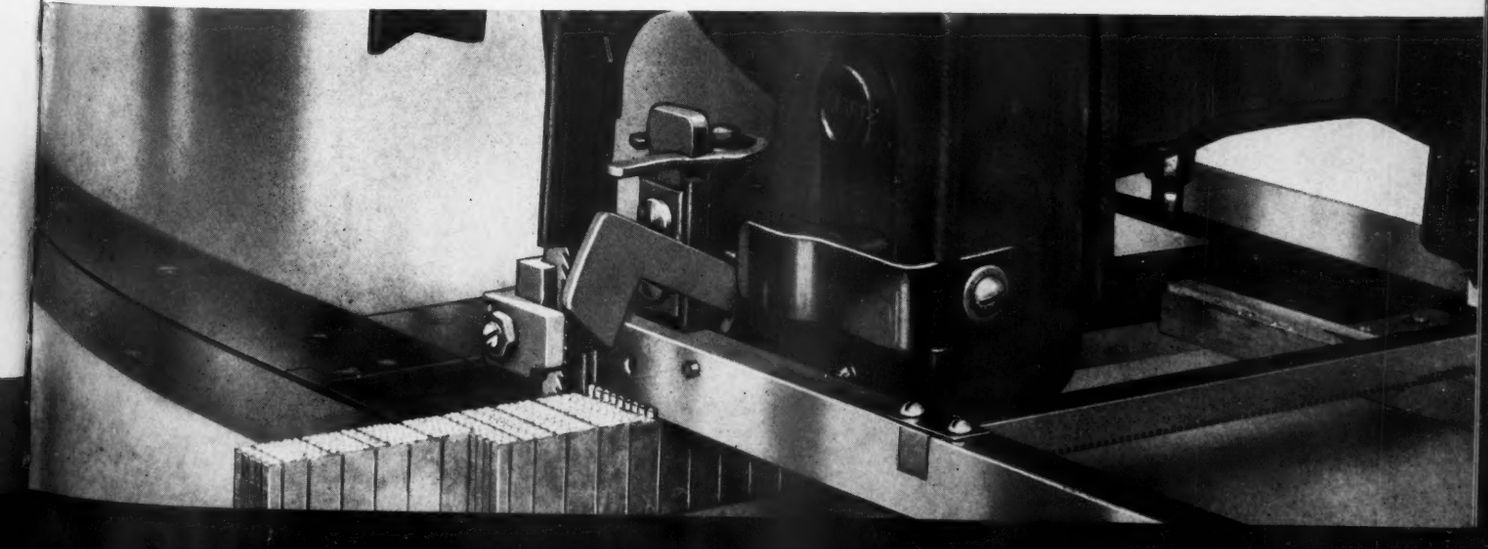
Rouse VERTICAL ROTARY MITERER shown at the right, will cut 1000 miters an hour direct from strip material. Pieces as short as 6 points and as long as 144 picas are cut at equal speed. A patented automatic clamp makes this speed possible. Metal or brass rule up to 24 points thick may be mitered with positive accuracy.

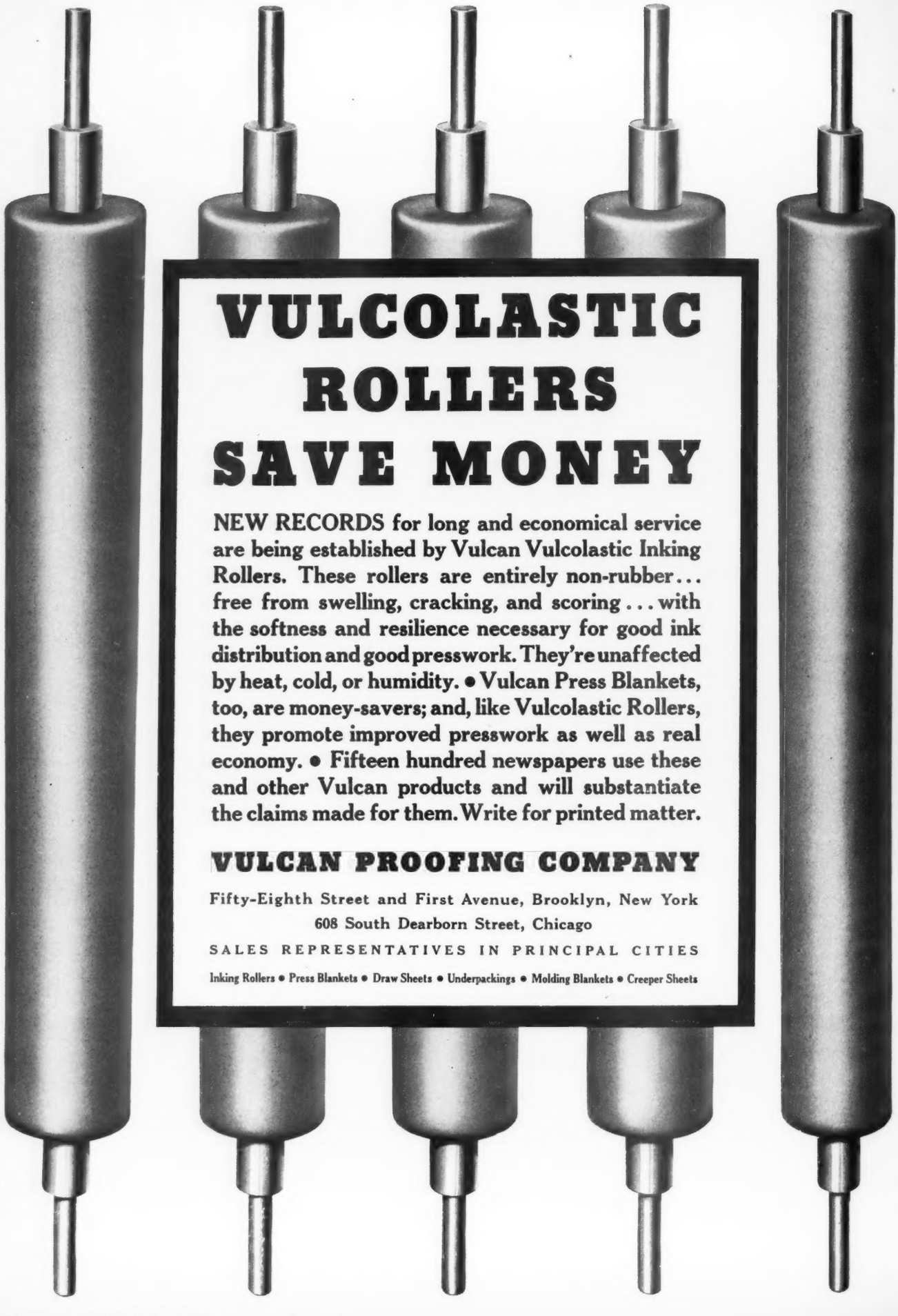
The ROUSE Vertical Rotary Miterer is profitable equipment wherever speed and accuracy are important. In addition to every-day mitering, it can be used in cutting hundreds of interesting borders and ornaments from blank strip material.

Rouse BAND SAW automatically selects lengths, and cuts to variable measure a full galley of slugs in 35 seconds. This operation requires no gauge setting, no clamping and no measuring. The illustration below shows the slug length selective mechanism on the ROUSE Band Saw.

Circulars are available giving full details of operation and performance of the ROUSE Vertical Rotary Miterer and the ROUSE Band Saw. Write for them now, or see both machines in operation at the A. N. P. A. Mechanical Conference at Chicago.

H. B. ROUSE & COMPANY, 2216 N. Wayne Ave., Chicago





VULCOLASTIC ROLLERS SAVE MONEY

NEW RECORDS for long and economical service are being established by Vulcan Vulcolastic Inking Rollers. These rollers are entirely non-rubber... free from swelling, cracking, and scoring... with the softness and resilience necessary for good ink distribution and good presswork. They're unaffected by heat, cold, or humidity. • Vulcan Press Blankets, too, are money-savers; and, like Vulcolastic Rollers, they promote improved presswork as well as real economy. • Fifteen hundred newspapers use these and other Vulcan products and will substantiate the claims made for them. Write for printed matter.

VULCAN PROOFING COMPANY

Fifty-Eighth Street and First Avenue, Brooklyn, New York
608 South Dearborn Street, Chicago

SALES REPRESENTATIVES IN PRINCIPAL CITIES

Inking Rollers • Press Blankets • Draw Sheets • Underpackings • Molding Blankets • Creeper Sheets

EXACTING REQUIREMENTS

The Premier Rotary Shaver is suited to The Exacting Requirements of present day shaving routine — is held up as setting a precedent in accuracy of product with speed of production. Irregular levels on flat work run counter to Quality Printing — which The Premier eliminates. It is important to emphasize that 20 Premier's are in daily operation with extraordinary owner praise. Improve your printing levels with The Premier.

STAHI NEWSPAPER SUPPLY COMPANY, INC.

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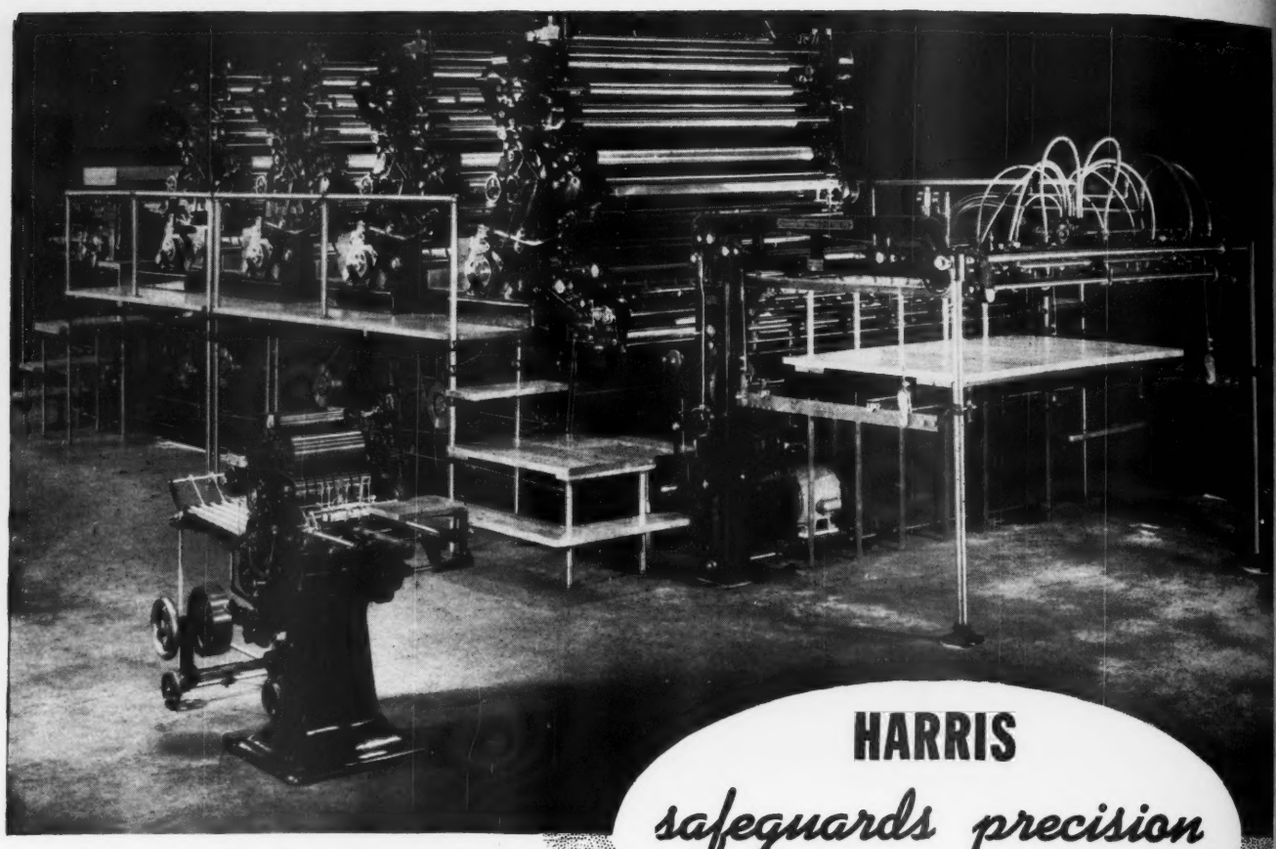
LOS ANGELES, CALIF.

538 So. CLARK ST.
CHICAGO, ILLINOIS

417 OREGONIAN BLDG.
PORTLAND, OREGON



Harris Model LSH offset press equipped with 36 TIMKEN Bearings and the Harris Model E1 envelope press (in foreground).

HARRIS *safeguards precision with* TIMKEN *bearings*

Tapered Roller TIMKEN BEARING EQUIPPED

A symbol of quality for any piece of equipment with which it is associated

Timken Bearings assure a smooth ride on the Comet, modern streamliner of the New Haven Road.

There is no type of printing press in which extreme precision is more necessary or more difficult of attainment than the modern multi-color offset press.

Nobody knows this better than the Harris-Seybold-Potter Company, Cleveland, Ohio, for they have been closely associated with the development of offset printing equipment in the United States for many years.

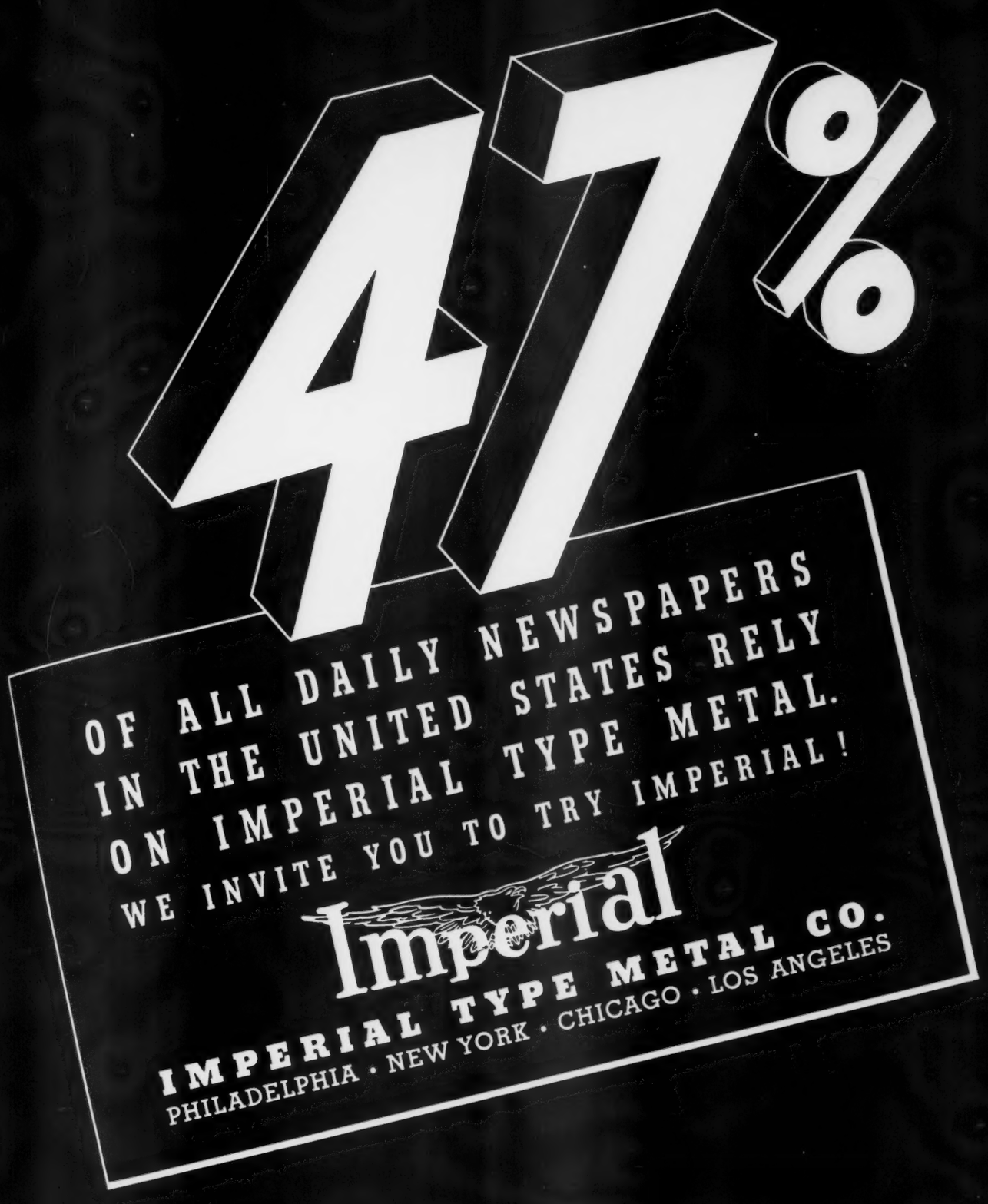
To assure correct and constant alignment; accurate operating pressures; freedom from friction and wear; and maximum protection against radial, thrust and combined loads all cylinders of the Harris Model LSH 46½" x 68½" 4-color offset press—plate, blanket, impression, transfer and delivery—are mounted on preloaded TIMKEN Bearings. 32 bearings are used in these precision parts and 4 more on the drive and compound drive shafts making a total of 36 TIMKEN Bearings in the machine.

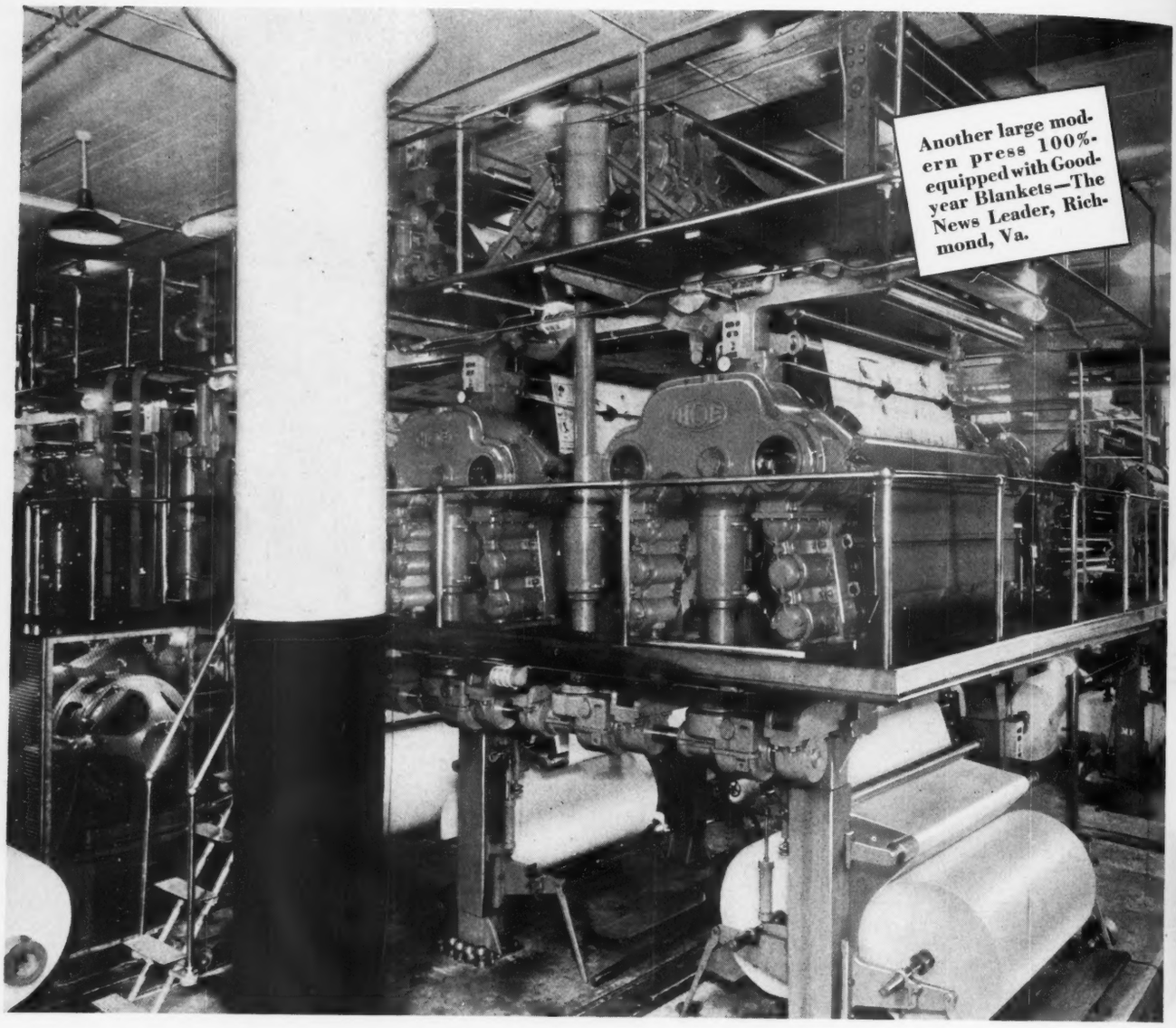
This modern refinement improves performance and reduces operating and maintenance costs in any kind of printing equipment. It pays to have it.

THE TIMKEN ROLLER BEARING COMPANY, CANTON, OHIO

Manufacturers of Timken Tapered Roller Bearings for automobiles, motor trucks, railroad cars and locomotives and all kinds of industrial machinery; Timken Alloy Steels and Carbon and Alloy Seamless Tubing; Timken Rock Bits; and Timken Fuel Injection Equipment.

TIMKEN
TAPERED ROLLER BEARINGS


47%
OF ALL DAILY NEWSPAPERS
IN THE UNITED STATES RELY
ON IMPERIAL TYPE METAL.
WE INVITE YOU TO TRY IMPERIAL!
Imperial
IMPERIAL TYPE METAL CO.
PHILADELPHIA · NEW YORK · CHICAGO · LOS ANGELES



Another large modern press 100%-equipped with Goodyear Blankets—The News Leader, Richmond, Va.

THERE IS JUST ONE REASON why more newspapers are printed on Goodyear Rubber Underpacking than on any other kind: *these press-proved blankets give faster, cleaner quality-printing and longest service at lowest ultimate cost!*

A stamp spent in inquiry may save you many dollars. Write Goodyear, Akron, Ohio, or Los Angeles, California

Branches in all principal cities

Now You Can Equip Completely With GOODYEAR PRESS-PROVED PRODUCTS

- Goodyear Red Top Felt Blankets
- Goodyear Rubber Underpacking
- Goodyear Rubber Ink Rollers
- Goodyear Press-Cutting Rubbers
- Goodyear Draw Sheets
- Goodyear Wingfoot Air Hose

Made by the makers of Goodyear Tires

THE GREATEST NAME IN RUBBER

GOODYEAR

Printing Equipment Engineer

Trade-Mark Registered U. S. Pat. Office

June, 1937
Volume 54 No. 3

A Monthly Publication

ESTABLISHED 1910

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Western Manager:
E. P. BLOOMSTER, 232 E. ERIE STREET, CHICAGO. PHONE SUPERIOR 2444

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A Technical Publication for the Mechanical Executive Responsible for Printing Production, Equipment and Supplies in the Commercial, Magazine, Private Plant and Daily Newspaper Field.

Published by Don Will • Edited by Mac Sinclair

Associate Editors: Ira D. Pilliard, Adam Henry Reiser

DO THE SAVINGS *Last?*

A composing room superintendent brought up this question: "You have proved conclusively that Black & White service reduces errors. But does the reduction *last?* What I mean is, perhaps the savings are partly a matter of improved morale among the operators, due to the fact that your service is admittedly easier on their eyes."

Here's the answer. Below is a tabulation of errors counted before the installation of Black & White service . . . and *more than a year after* installation:

Operator	BEFORE INSTALLATION			MORE THAN ONE YEAR AFTER INSTALLATION			
	Lines Set	Total Errors	Total Errors per 100 Lines	Lines Set	Total Errors	Total Errors per 100 Lines	Per Cent Reduction in Total Errors*
Arnold	2,467	173	7.01	2,323	61	2.62	62.00
Cooper	2,683	65	2.42	2,887	47	1.62	33.00
Cummings	284	8	2.81	2,599	99	3.80	35.00
Kellar	2,779	87	3.13	415	10	2.40	23.00
Knobloch	1,007	60	5.95	2,659	117	4.40	26.00
Martin	2,114	126	5.96	1,356	34	2.50	58.00
Munson	738	30	4.06	2,898	27	.93	77.00
Newman	1,206	28	2.32	298	1	.33	85.00
Prentice	2,835	148	5.22	1,266	26	2.05	60.00
Roman	1,933	33	1.70	4,024	45	1.11	34.00
Smith	3,283	109	3.32	1,347	19	1.41	57.00
Tracy	2,685	98	3.64	2,702	95	3.51	3.00
No Slug	886	33	3.72	4,045	43	1.06	71.00
	24,900	998	4.01	28,819	624	2.16	46.13

* Effected by Matrix Contrast Service

The Old Way and the New Way

Yes, the reduction of errors effected by Black & White service lasts indefinitely. In fact, in this case the reduction was actually greater a year after installation than it was immediately after.

Think of the savings of time effected by such a substantial reduction of total errors. Remember . . . we *guarantee* a reduction of at least twenty-five per cent. The usual average is considerably higher.

WRITE FOR FOLDER

MATRIX CONTRAST CORPORATION

GENERAL OFFICES: EMPIRE STATE BUILDING, NEW YORK, N. Y.

SOLE LICENSEES OF THE PERCY L. HILL MATRIX CONTRAST PATENTS NOS. 1,466,437 and 1,796,02

The Mechanical Conference

By STAFF WRITER

This year's meeting covers entire newspaper technical field—Important papers on typography, composing room, stereotyping, color and photoengraving

DISCUSSION from the floor has always marked the program sessions of the A.N.P.A. Mechanical Conferences. This year's conference program will be no exception inasmuch as the program has been arranged deliberately with this thought in mind. The average newspaper printing plant executive likes to discuss his techincal problems. He does this spontaneously because there is much to be corrected or improved in today's production methods. Enlightenment can be secured only by a full and free discussion of these mechanical and production problems. The place to hold that discussion is on the Conference floor.

This year's conference is being held at the Drake Hotel, Chicago, as has been announced in a special bulletin sent by Manager W. E. Wines to the A.N.P.A. Mechanical Department membership and through the May Issue of *Printing* EQUIPMENT *Engineer*.

As has been the case with other trade associations, more subjects have been presented in the past than could very well be handled in the stated times allotted for discussion. In contrast with previous A.N.P.A. programs the sessions this year have been shortened.

Much interest has been centered about the proposed report of the Committee on Standard Colors. This will be presented by Chairman of the Committee Arthur H. Burns, Mechanical Superintendent of the New York *Herald-Tribune*, on Tuesday afternoon, June 8.

Two subjects which have never come before previous conferences are those of "Lighting for Newspaper Plants" by Willard C. Brown, Illuminating Engineer, Nela Park, Cleveland, and "Heating, Ventilation and Humidity," by R. T. Williams, Carrier Corporation, New York.

Douglas C. McMurtrie, Director of Typography of the Ludlow Typograph Company, will discuss "Advertising Typography" on Monday morning, June 7.

Harry M. Crosby's talk on "Cold Top Enamel" and "Transparent Base Stripping Film" by Victor W. Hurst should be subjects of prime importance because of the

(*Continued on Page 24*)

The first and only manager of the Mechanical Department of the American Newspaper Publishers Association. Under the administration of W. E. Wines and in cooperation with the Mechanical Committee the Department is functioning in a vital manner for its member papers.

To Production and Mechanical Executives

MANY of the informal technical discussions about production and equipment problems in *Printing* Equipment *Engineer* are contributed by our production and mechanical executive readers. Printing plant executives talk shop with readers of this magazine because our readers are interested in the same things.

The passing on of technical knowledge to others is one of the finest attributes of the plant executive—he is generous enough to want to share his discoveries with others in grateful appreciation for the many good things he has obtained from the editorial columns of *Printing* Equipment *Engineer*.

The editor of this magazine invites you to write in pencil notes on any kind of paper the facts about some mechanical or production help which has been developed in your plant or in your department. Printing plant executives are busy men and don't have much time for formalities.

In this issue you will find several articles which have been contributed by printing plant executives who are glad to let others know about and have the benefit of production helps developed in their plants.

Ulac Sinclair

—Editor.

HONORARY CURATOR

The Trustees of Columbia University, where the American Type Founders Typographic Library was installed in August last year, have named Henry Lewis Bullen as Honorary Curator. This appointment will identify Mr. Bullen with the Library. Today he sees fulfilled an old wish that this rich source of printing lore would become a national institution located in some great school of learning, open to the inspection and perusal of those interested in the practice or history of the Graphic Arts.

Employment and Service Department

for Readers of

Printing EQUIPMENT *Engineer*

Employers, production and mechanical executives may insert notices in this department.

Items for this department may pertain to the following subjects: "Executive Wanted," "Association or Partnership Wanted," or "Position Wanted," readers referring to subjects of a personal nature such as obtaining information about addresses of executives, supplying copies of technical articles and magazines, patents for sale or requests for contacts for developing and/or financing of inventions.

Any reasonable request from an employer or mechanical executive for the printing of a notice upon a subject other than the ones listed above will be granted.

Notices may be printed under the following regulations: First insertion (maximum six lines) is free of charge. All subsequent insertions of the same item subject to a charge of 75c per line in advance.

Address all communications with box number to *Printing* Equipment *Engineer*, 1276 West Third St., Cleveland, O.

PATENTS FOR SALE—Printers Insurance Protective Inventory System patents for sale. System provides means for determining true inventory value of printing plant for running business value, tax assessment value, value of plant to be sold under hammer and fire insurance value for printer, engraver, bookbinder, newspaper. Reply Box 20.

Editorial

A Permanent Conference City?

EVER since the first annual meeting of the A.N.P.A. Mechanical Conference in Harrisburg, Pa., in 1927, it has been customary to select a different city in which to hold the succeeding conference. As time passed, it became evident that a larger city must be selected by the Mechanical Committee for the reason that the attendance of mechanical executives increased each year. Evidently, the selection of a host city would be governed by the facilities existing in that city for accommodating the ever-increasing attendance. Perhaps, too, the conference cities were selected with a view of giving mechanical executives every opportunity to see how newspaper printing plants are conducted in other places.

After the Harrisburg Conference came in succession Cleveland, Buffalo, West Baden, Washington, D. C., Cincinnati, Pittsburgh, St. Louis, Detroit and Chicago. Many cities in various parts of the country have extended invitations and their hospitality to the Mechanical Conferences. It is assumed that the selection of conference cities has been governed in most cases by attempting to hold the conferences as near as possible to the geographical center of the A.N.P.A. membership.

The selection of Chicago as the 1936 conference city met with universal approval for many reasons. Judging by the attendance of nearly six hundred mechanical executives (the largest in the history of the A.N.P.A. Mechanical Department) it seems perhaps Chicago may be the answer to future conferences since it is centrally located and permits the greatest number of publishers to send their departmental executives. In addition to its geographical advantages in relation to A.N.P.A. membership, Chicago also affords other facilities peculiar to the needs of the A.N.P.A. mechanical group. The repeat selection for the 1937 Conference should meet with general approval.

Letters To The Editor

Silent Chain Drives

Dear Editor—I read with interest the article on page 44 of the May issue of *Printing* Equipment *Engineer* concerning the replacement of ink mechanism drive gears with silent chain drives.

The *Enquirer* installed 32 of these drives in September, 1934, and they have been running ever since without repairs. The drives operate silently and efficiently and cut down power consumption. Mr. Weiskittle, our pressroom superintendent, is highly pleased with their operation.

Very truly yours,
H. D. Rindsberg, Mech. Supt.
The Cincinnati *Enquirer*.

PROMINENT SPEAKERS WHO WILL APPEAR ON THE A. N. P. A. MECHANICAL CONFERENCE PROGRAM AT DRAKE HOTEL, CHICAGO, JUNE 7, 8 and 9.

First row, top, left to right: Willard C. Brown, Illuminating Engineer, General Electric Company, Nela Park, Cleveland. S. E. Thomason, President, Chicago Newspaper Publishers Association. Prof. Arthur C. Hardy, Massachusetts Institute of Technology, Cambridge, Mass.

Second row, left to right: Douglas C. McMurtrie, Ludlow Typograph Company, Chicago, Ill. John E. Martin, Production Manager, The New York *Sun*, New York, N. Y.

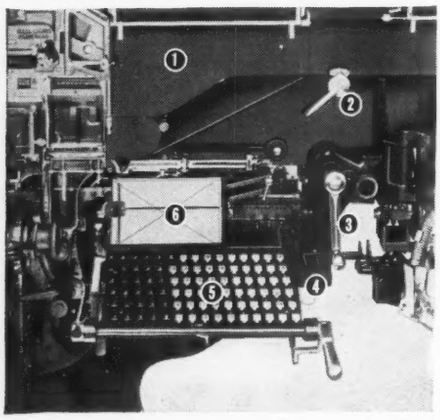
Bottom row, left to right: Dr. George A. Kubler, President, Certified Dry Mat Corporation, New York, N. Y. Arthur H. Burns, Mechanical Superintendent, The *Herald Tribune*, New York, N. Y. Harry M. Crosby, Engraving Superintendent, The *Daily News*, New York, N. Y.

HOW ONE PLANT INCREASED PRODUCTION WITH . . . THE BLUE S

TRADE LINOTYPE MARK

■ Your old composing machines may be costing you enough extra . . . in production you should get and don't . . . to far more than cover the price of a Blue Streak Linotype. Decide now to profit from a Blue Streak in your plant. It will turn out better-looking composition more quickly, at less cost.

Put These Blue Streak Features to Work for You



1. OPTIC-AID FRONT. Eliminates distracting motion and reflections in operator's eyes. No-glare finish.

2. UNIT CONTROL. Shifts action of One-Turn Shift from main to auxiliary.

3. ONE-TURN SHIFT quickly shifts magazines.

4. MIXING KEYS on Quick Mixer Models. A mere touch changes types.

5. SWINGING KEYBOARD. Gives same accessibility as though keyboard were removed.

6. ADJUSTABLE COPY HOLDER. Holds large or small sheets in easiest-to-read position.

UNIVERSAL KNIFE BLOCK with three bearings to give rigid support to the right-hand knife and assure parallel movement.

UNIVERSAL EJECTOR with blades rigidly supported between heavy guides and set for any measure by a single movement of a handle.

LOCK FOR AUXILIARY MAGAZINES prevents accidental dislodging of adjacent magazines when changing magazines.

CONTROL OF AUXILIARIES from operator's seat without break of operating tempo.

FRONT REMOVAL of all magazines.

SIX-MOLD DISK (applicable equipment), for heads and other varied requirements.

AUTOMATIC FONT DISTINGUISHER prevents wrong fonts from entering magazine.

IMPROVED SPACEBAND 16% stronger, made in five thicknesses.

REMOVABLE DOUBLE "E" DEVICE.

VERTICAL MOUTHPIECE WIPER thoroughly cleans face of mouthpiece and vents after each cast.

EM, EN, THIN SPACE RELEASE automatically releases any one or all of these fixed spaces in combination with, or independent of, the spaceband when spaceband lever is touched.

WATER-COOLED MOLD DISK provides constantly circulating water to maintain correct temperature.

QUICK-CHANGE LINERS. Changed without removing mold from disk.

SECTIONAL DISTRIBUTOR BARS provide for future maintenance economy by permitting ultimate replacement of short section instead of complete bar.

STURDY FOUNDATION with extra-wide base and extra-heavy frame to provide rigid support, reduce strain and vibration, and maintain permanently accurate alignment of mechanisms.

UNIVERSAL SELF-QUADDER applicable to all new machines, provides low-slug quadding, centering, or automatic fixed indention.

LINOLITE MAGAZINES. Much lighter and more durable than brass.

QUICK REMOVABLE KEYBOARD RUBBER ROLLS.

COMPLETE BANK OF KEYBOARD KEY BARS removable as a unit.

SHORT LINE SAFETY (when the Self-Quadder is not in use) prevents casting short lines.

POSITIVE SPACEBAND DELIVERY assures minimum of transpositions.

Learn more about these and many other Blue Streak features at the Mergenthaler exhibits at the A.N.P.A. Mechanical Conference, Chicago, June 7, 8 and 9. Also at the Chicago Agency, 531 Plymouth Court.

Mergenthaler Linotype Company

BROOKLYN, NEW YORK

NEW YORK CITY · SAN FRANCISCO · CHICAGO · NEW ORLEANS · CANADIAN LINOTYPE, LIMITED, TORONTO, CANA

REPRESENTATIVES IN THE PRINCIPAL CITIES OF THE WORLD

BLUE STREAK LINOTYPE

and soon found it "an exceptionally good investment"

HARRIS BROWN,
VICE PRES. & MAN'G EDITOR

ALBERT A. STONE,
VICE PRES. & GEN'L MANAGER

C. E. PIGFORD,
PRESIDENT

RADIO STATION WTJS

WITH THE SUN HAVE BEEN MERGED
THE JACKSON DAILY WHIG, ESTABLISHED 1848
THE JACKSON DISPATCH, ESTABLISHED 1873
THE JACKSON DEMOCRAT, ESTABLISHED 1910
THE MORNING JACKSONIAN, ESTABLISHED 1912

MEMBER
THE ASSOCIATED PRESS
AMERICAN NEWSPAPER PUB. ASS'N.
SOUTHERN NEWSPAPER PUB. ASS'N.
NATIONAL ASS'N. OF BROADCASTERS

THE JACKSON SUN

EVENING AND SUNDAY MORNING

PUBLISHED BY SUN PUB. CO.
JACKSON, TENN.

OFFICE OF THE GENERAL MANAGER

April 12, 1937

Mergenthaler Linotype Company
549 Baronne Street
New Orleans, Louisiana

Gentlemen:

The Model 30 Linotype recently installed in The Sun's composing room has proven very satisfactory, and we consider the money paid for this machine an exceptionally good investment. This machine has enabled us to eliminate considerable overtime, to expedite practically all advertising compositions in our composing room, and to improve the appearance of our paper generally.

Prior to the installation of this machine it was necessary to work a minimum of three men several hours overtime on Wednesday nights, in order that we might get our Thursday edition to press on time. In addition to the usual department store lineage, we carry practically all of our food store lineage in the Thursday issue, causing the peak load to fall on that day. Since the installation of the Model 30 Linotype in our plant, all this overtime has been eliminated and the Thursday editions, as well as all other large week-day issues, come out on schedule.

No improvement made in the history of the present management has been greeted with greater acclaim by our readers than the change to the modern 7 point Opticon with Bold Face No. 2, which we are now using for our body matter, set on a 7½ point slug. Many of our subscribers have voluntarily written us, thanking us for making the paper so much more legible and adding so much to the paper's attractiveness.

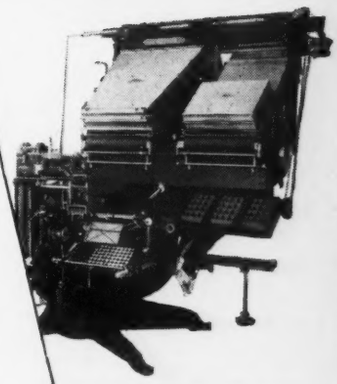
Believing that you would be interested in receiving this favorable report concerning your new Model 30 Linotype, we are,

Very truly yours,

THE SUN PUBLISHING COMPANY

Vice Pres. & Gen. Mgr.

AAS/H



TRADE LINOTYPE MARK

Many other plants have had similar experiences with Blue Streak Linotypes, evidenced by endorsement letters in our files.

A-P-L AND LINOTYPE MEMPHIS FAMILY

Mechanical Conference

(*Continued from Page 19*)

present high interest in newspaper illustration reproduction methods.

Color printing in newspapers, as has been indicated by placing the report of the color committee on the program, will be given further attention by Walter Ogden, Pressroom Superintendent of the Cleveland *Press*, who will discuss "Devices, Makeshift and Otherwise, for Printing Run-of-Paper Color in Daily Editions of Newspapers," on Tuesday afternoon, June 8, and by Prof A. C. Hardy's demonstration lecture on color on Tuesday evening. The color theme will be further discussed by R. L. Longmore, Stereotype Superintendent of the Chicago *Tribune*, on Wednesday morning, June 9. Mr. Longmore will talk on "Stereotyping for Run-of-Paper Color Printing."

The Program

The completely corrected program is as follows:

MONDAY MORNING, JUNE 7—9:45 O'CLOCK

General Session

Address of Welcome
S. E. Thomason, President, Chicago Newspaper Publishers Association.

Lighting for Newspaper Plants
Willard C. Brown, Illuminating Engineer, Nela Park, Cleveland

Heating, Ventilation and Humidity
R. T. Williams, Carrier Corporation, New York

MONDAY AFTERNOON—2 O'CLOCK

Composing Room Session

Advertising Typography
Douglas C. McMurtrie, Ludlow Typograph Company, Chicago

Defects in Slugs and How to Overcome Them
Mac D. Sinclair, Printing Equipment *Engineer.*

What Can Be Done to Improve Proofreading?
Discussion opened by J. E. Martin, New York Sun

What Has Been Done to Assist the Composing Room by Improving Advertising Copy and Advertising Copy Flow?
Discussion opened by L. C. Michaels, Cleveland Plain Dealer

What is the Best Method of Mounting Cuts?

Who Uses the Stahi Power-Lift Form File? Is It Satisfactory?

How Many Profited from C. H. Ruth's Paper on "Housecleaning in the Composing Room," Presented at Last Year's Meeting? Are There Any New Ideas on This Subject?

What is Done to Overcome Loss of Space Through Shrinkage of Dry Mats?

What Is New in Methods or Equipment?

Additional Topics, Offered from the Floor

MONDAY NIGHT—9 O'CLOCK

Visit to Radio Station WGN.

TUESDAY MORNING, JUNE 8—9:30 O'CLOCK

Photo-Engraving Session

Transparent-Base Stripping Film
Victor W. Hurst, Graphic Arts Department, Eastman Kodak Company, Rochester, N. Y.

Cold Top Enamel
Harry M. Crosby, Engraving Supt., New York Daily News

Importance of Proper Retouching Photographic Copy

How Many Re-etch Cuts With a Brush and How Many With an Acid Gun? What is the Best Method?

What Methods are Employed to Speed Rush Copy Through the Engraving Department?

Salvage and Re-use of Masking Material

Comparative Merits and Advantages of Zinc and Brass

What is New in Methods or Equipment?

Additional Topics, Offered from the Floor

(*Continued on Page 28*)

Exhibitors

At A.N.P.A.

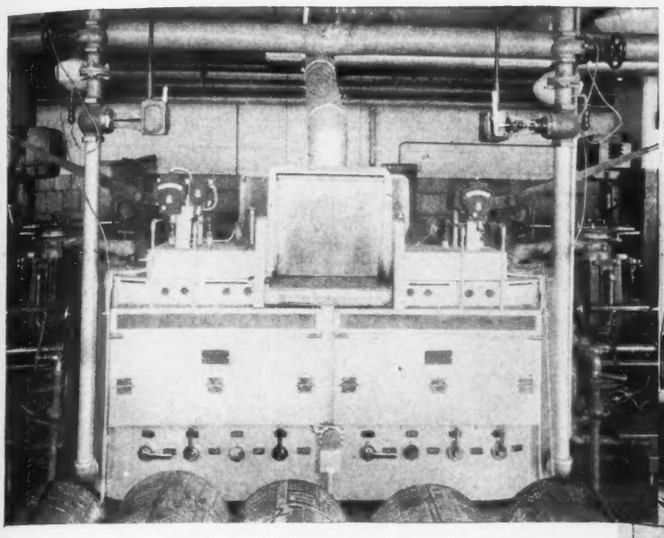
Mechanical Conference

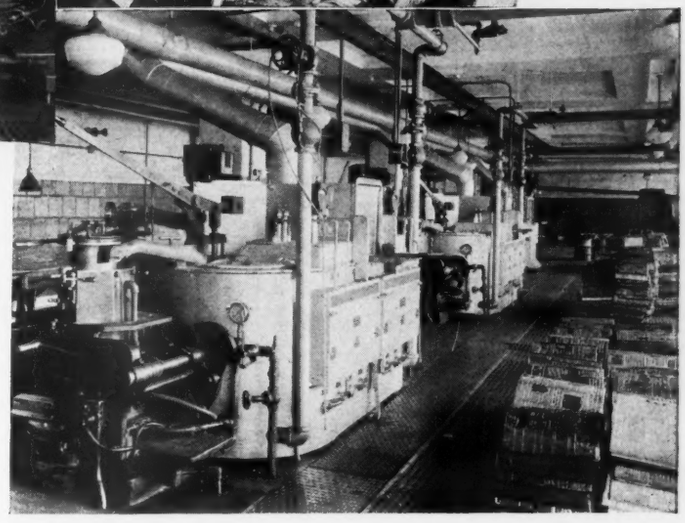
Following is a list of the equipment manufacturers and suppliers who are exhibiting at the Drake Hotel, Chicago, during the A.N.P.A. Mechanical Conference. This list has been corrected as of the time *Printing* Equipment *Engineer* goes to press with the June issue.

Booth	*Company*
1 to 5	Ludlow Mfg. Co.
6-7	H. B. Rouse & Co.
8 to 10	Vandercook & Sons
11	Illinois Testing Laboratories
12 to 15	Sam'l Bingham's Son Mfg. Co.
16-17	Hammond Machinery Builders
18	Federated Metals Division
19	Rolled Metal Plate
20 to 22	Milwaukee Saw Trimmer
23-24	Tingue, Brown Co.
25	Ludlow Mfg. Co.
26-27	Stahi Newspaper Supply Co.
28-29	Rapid Roller Co.
30	Matrix Contrast Corp.
31-32	Chemco Photoproducts Co.
33	Wallin Mfg. Co.
34	Imperial Type Metal
35	The Nelson Roller Co.
36-37	Arthur H. Gaebel
38	Editor & Publisher
39-40	Benjamin Electric Co.
41-42	New England Newspaper Supply Co.
43	Tesch Mfg. Co.
44	*Printing* Equipment *Engineer*
45	E. A. Booth Rubber Co.
46	Western Brush Co.
47-48	Johnstone Electric Co.
49	Rapid Electrotype Co.
50	J. A. Richards Co.
51	Foley Mfg. Co.
52	Vogt Roller Company
53-54	Consolidated Metal Crafts Co.
55	Mergenthaler Linotype Co.
56	Wesel Mfg. Co.
57-59-61	Eastman Kodak Co.
58	Lake Erie Stereotype Equipment Corp.
60	Linotype Parts Co.
62	Linograph Corporation
63	C. F. Pease Co.
64	C. F. Pease Co.
65	National Steel & Copper Plate
66	National Printing Appliance Corp.
M-16	C. B. Nelson & Co., West Mezzanine

NIGHT *after* NIGHT

KEMP IMMERSION MELTING (with Gas) does its part in the Brooklyn Plant of the New York Daily News





Twin Kemp installations occupy center stage in this model stereotyping room. Each of the identical Kemp units consists of a 12 ton pot equipped with two Jr. Autoplates and delivers metal at the rate of *240* plates per hour.

At the Daily News, consistent performance and high speed are the vital requirments... but here, too, Kemp Immersion Melting shows characteristic economy. Kemp guaranteed this equipment to save 40 percent (or more) in fuel over the previous installation. Kemp offers you the same guarantee (in writing) and without asking or caring how you melt metal now!

We'll build and ship your equipment. You give it a workout for thirty days. If it satisfies you in every respect, you pay for it. If it doesn't, we take it back. So, if you think you can't save money on stereo melting, write wire or phone **The C. M. Kemp Manufacturing Company, 405 East Oliver Street, Baltimore, Md.**

KEMP of BALTIMORE

THE TRANSITION TO

The above is an imposing exhibition of clogging your working floor space with the make-up truck system of storing forms. Expansion with the make-up truck system means more clogging of your floor space, often resulting in expensive building extensions.

IF YOU WANT RELIEF FROM CONGESTION IN YOUR COMPOSING ROOM, OR YOU DESIRE TO EXPAND YOUR MAKE-UP FACILITIES, READ THE STORY ON THE NEXT PAGE ⟶

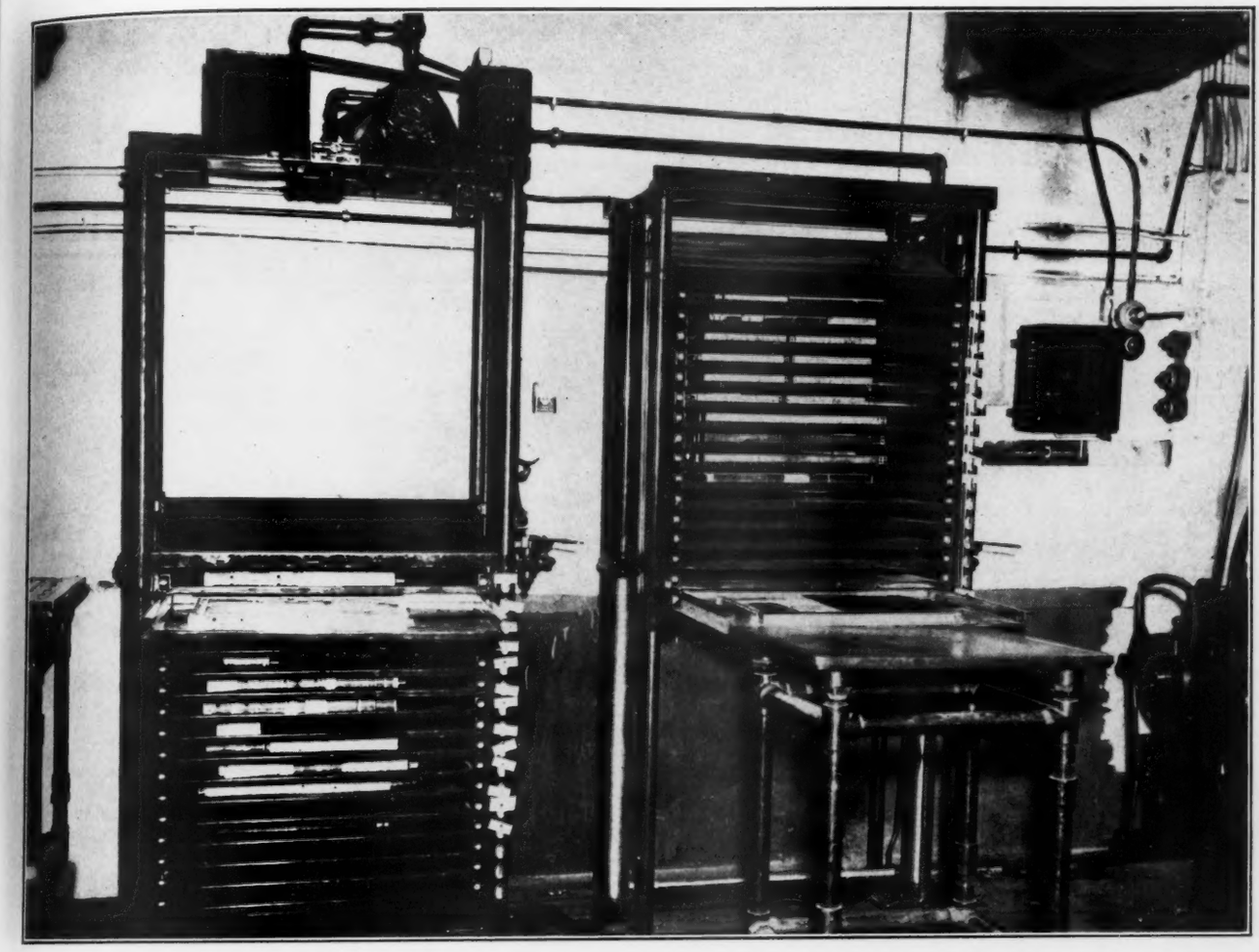
STAHI NEWSPAPER SUPPLY COMPANY, INC.

1020 CROCKER STREET
LOS ANGELES, CALIF.

538 So. CLARK ST.
CHICAGO, ILLINOIS

417 OREGONIAN BLDG.
PORTLAND, OREGON

MODERN TIMES



The Stahi Power Lift Form File and its companion — The Stahi Auxiliary Form File illustrated above takes care of 32 active forms and chases in approximately 1/10th the floor space required by make-up trucks. Forms are quickly located in The Form File by means of the index tab opposite each filing position, and easily transferred to or from the filing positions — elevations quickly accomplished by the Stahi hydro-electric unit. Easy sliding of forms on roller operated steel shelves. Maximum editions handled with a minimum of circulating transfer trucks, conserving floor space the modern way.

STAHI NEWSPAPER SUPPLY COMPANY, INC.

1020 CROCKER STREET
LOS ANGELES, CALIF.

538 So. CLARK ST.
CHICAGO, ILLINOIS

PORTLAND, OREGON
417 OREGONIAN BLDG.

Mechanical Conference

(*Continued from Page 24*)

Comments and Suggestions by Advertising Agency Representatives

TUESDAY AFTERNOON—2 O'CLOCK

PRESSROOM SESSION

Report of Committee on Standard Colors
A. H. Burns, New York Herald-Tribune, *Chairman*

Devices, Makeshift and Otherwise, for Printing Run-of-Paper Color in Daily Editions of Newspapers
Walter Ogden, Pressroom Superintendent, Cleveland Press

Relative Methods of Various Ink Fountains.

Has Anyone Developed a New Method for Lessening Strike Through, Show Through or Offset as Defined?

What Has Been the Experience of Users of High Speed Pasters?

Problems in the Operation of a Tubular Press

What is New in Methods or Equipment?

Additional Topics, Offered from the Floor

TUESDAY EVENING—8 O'CLOCK

Lecture
By courtesy of International Printing Ink Corporation

New Approach to Color Reproduction
Prof. A. C. Hardy, Massachusetts Institute of Technology

WEDNESDAY MORNING, JUNE 9—9 O'CLOCK

STEREOTYPE SESSION

Recent Researches in the History of Stereotyping
George A. Kubler, President, Certified Dry Mat Corp., New York

Stereotyping for Run-of-Paper Color Printing
R. L. Longmore, Stereotype Superintendent, Chicago Tribune

What is the Best Depth of Bolster for Use with Autoplates, 0.050 in., 0.070 in. or 0.100 in.?
Discussion opened by W. J. Phillips, Oklahoman & Times

Thin *vs.* Thick Dry Mats and the Printing Qualities of Each
Discussion opened by George H. Fuller, Cleveland Press

Who Uses Vacuum Casting Boxes and What Has Been the Experience With Them?

Preparation of Stereotype Plates for Tubular Presses

Questions on Stereotype Equipment Problems

What is New in Methods or Equipment?

Additional Topics, Offered from the Floor

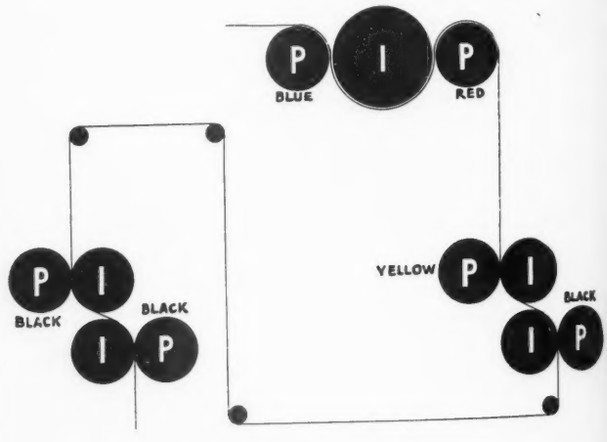
NEW LOS ANGELES MAN

E. H. Hostetler, manager of the Los Angeles Division of the Intertype Corporation, announces the appointment of Homer Camp Clifford, of Los Angeles, to represent Intertype in the metropolitan section of that city. Mr. Clifford was born in Colton, Calif., and has been identified with the industry in Los Angeles for the past twenty-four years.

R.O.P. Color Printing At New Orleans *Times-Picayune*

4 MILES IN 5 ARE ST P-AND-GO
It's the costliest kind of driving you do
ONE STOP can waste enough gasoline to take you one-third of a mile . . . and you average 30 stops every day!
To cut down the high cost of stop-and-go driving, Shell engineers developed a way to "balance" gasoline.
By this revolutionary balancing process, the entire chemical structure of gasoline is rearranged. Actually Super-Shell is made "digestible" for your motor, just as some foods are made digestible for you by cooking.
When you're starting, shifting, accelerating —at *all* times—your motor gets the *full* benefit of Super-Shell's *high energy content*.
"Motor-digestible" is the best way to describe this gasoline.
There's a Shell dealer in your neighborhood. Stop there "next time" for gas.
SHELL
SUPER-SHELL

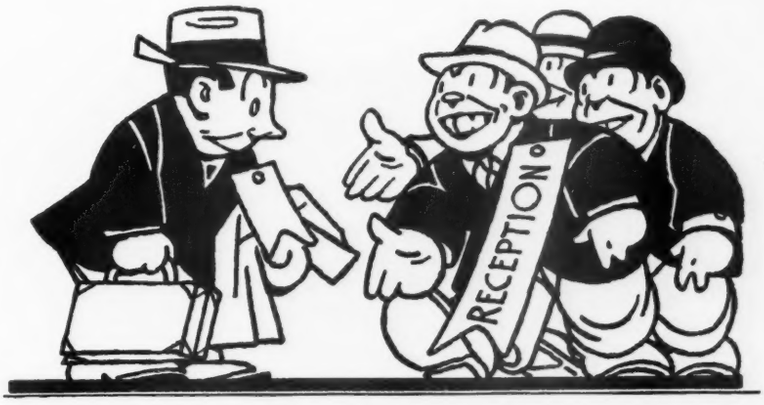
By using two Hoe Z-pattern press units, in the plant of the New Orleans *Times-Picayune*, with superimposed tri-cylinder color attachment, two colors are secured from the attachment and one below in a regular unit. Mechanical Superintendent Fred K. Forstall states that when running four colors (3 colors and black) the arrangement as shown in the diagram is used. Note the long lead (52 ft.) from black to last color.



Reproduction by direct photography without retouching of any kind of a full page advertisement appearing in the May 14 issue of the New Orleans *Times-Picayune*. The original of this page was printed from stereos made from three-color process plates—red, blue and yellow. Frederick K. Forstall, Mechanical Superintendent, states all color work in the *Times-Picayune* plant is executed on Z-type press units with superimposed color unit. The registration is excellent and the colors are full and warm. In this miniature reproduction, the cloudy orange-red tones over yellow background did not reproduce to best advantage. Mr. Forstall thinks newspapers are not yet "out of the woods" with respect to run-of-paper color printing, but that the members of the *Times-Picayune* organization are going to keep on trying. See accompanying diagram for color sequence.

BURGESS CHROME MATS

BURGESS CHROME MATS



Burgess Welcomes You

The Burgess Cellulose Company has taken a suite at the Drake Hotel for the duration of the A. N. P. A. Mechanical Meeting. Come in and feel at home.

You won't be pestered with sales chatter but you'll find here people who talk your language, eager to swap information and to discuss new developments. Our representatives, practical men, will be there to greet you.

D. T. STEPHENSON, Secretary in charge of Sales
JACK KEARNS, Eastern District

F. W. (Doc) CLEVENGER
North Central District

HENRY (Tony) MESSINA
Northwestern District

MARION MORGAN
Southwestern District

WALTER HITCH
Southeastern District

BURGESS CELLULOSE COMPANY
FREEPORT - ILLINOIS

Printed in U. S. A.

BURGESS CHROME MATS

BURGESS CHROME MATS

BURGESS CHROME MATS

THESE 10 NEWS-

THE growing list of 1937 press installations includes ten progressive newspapers that have selected the G-E press-drive-and-control system.

These new installations represent both new and present users of G-E equipment. In all cases, G-E double-motor drive and control was selected after a thorough inspection and careful analysis of all types of drives—significant recognition of the superior operation, performance, and flexibility of the G-E system.

You, too, can safely rely on the G-E system for co-ordinated performance of the entire press installation. The variety of types of presses covered by these installations is proof that the G-E system is designed to operate in conjunction with complete installations — presses, reels, tensions, and pasters—manufactured by any press manufacturer.

The Globe and Mail
PAGANISM ENDORSED AS GERMAN RELIGI
Herald Tribune
NEW YORK
Threat of U.S. Tax Rise Stirs Move in Congress To Slash Relief Budget
The Times-Picayune
EXPERTS BAFFLED AT CAUSE OF FATAL HINDENBURG BLASTS
THE MORNING MERCURY
'CAR ON THE LOOSE' IN WEST END

PAPERS JOIN THE 1937 G-E ROLL CALL

Allentown Call—Chronicle and News. *Hoe newspaper presses. Two 150-hp. G-E office: Allentown.*

Boston Globe. *Hoe newspaper press. One 200-hp. G-E office: Boston.*

Boston Herald and Traveler. *Scott newspaper presses. Two 150-hp. G-E office: Boston.*

Houston Chronicle. *Goss newspaper presses, with color. Three 200-hp. G-E office: Houston.*

Miami Tribune. *Hoe newspaper presses, with color. Two 150-hp. G-E office: Miami.*

Newark News. *Scott newspaper presses, with provision for color. Two 125-hp. G-E office: Newark.*

New Bedford Standard-Times and Mercury. *Duplex newspaper presses, with color. Two 100-hp. G-E office: Boston.*

New Orleans Times-Picayune. *Hoe newspaper presses, with color. Two 200-hp. G-E office: New Orleans.*

New York Herald-Tribune. *Scott newspaper presses. Two 200-hp. G-E office: New York.*

Toronto Globe and Mail. *Hoe newspaper presses, with provision for color. Three 200-hp. Canadian G-E office: Toronto.*

It will pay you to call in the G-E printing equipment specialist—get in touch with the G-E office in your locality. General Electric Co., Schenectady, N. Y.

Advantages of the G-E Press-drive-and-control System

1. Superior press performance and flexibility of operation, made possible by the broad experience of General Electric. Complete equipment, engineered to the individual requirements of your plant.

2. Greatest degree of safety for pressmen, presses, and electric equipment.

3. Simple and easy to install and operate because of simplicity of design and construction.

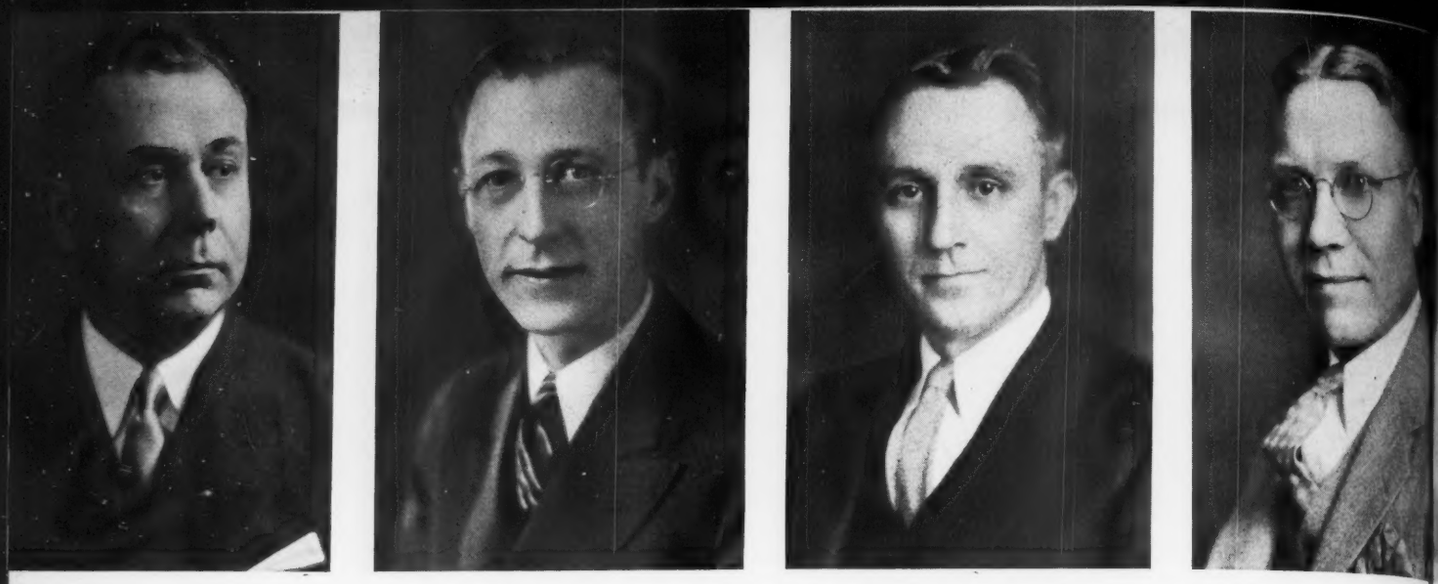
4. Low operating cost and maintenance expense because of reliability and sound design.

5. Service from a responsible, reliable manufacturer, available from offices more conveniently located than those of any other electrical manufacturer.

6. Equipment that conserves space, thereby making valuable room available for other purposes. These and many other advantages are obtainable with the General Electric modern high-speed press-drive-and-control system.

011-223A

GENERAL ELECTRIC



(EXECUTIVE GROUP OF THE IOWA CITY (IA.) *PRESS-CITIZEN*
Above, left to right: Merritt C. Speidel, President-Publisher; Harry S. Bunker, General Manager; Guy J. Chappell, Superintendent Production Department; Malcolm Ean, Production Department Machinist.

Air-Conditioned Plant

By STAFF WRITER

New home of Iowa newspaper provided with equipment to maintain proper temperature and humidity the year 'round.

COMPLETELY modern throughout is the new publishing plant of the Iowa City *Press-Citizen* at Iowa City, Ia., which was opened to the public May 22 and formally dedicated June 3 by the Iowa Daily Press Association and the School of Journalism at the State University of Iowa located in Iowa City.

From its modern and practical air-conditioning unit housed in the basement, to the visible exterior of architectural beauty, the *Press-Citizen* building stands as a monument of progress.

Ground for the new publishing plant was broken June 1, 1936 and its construction utilized approximately 10 months. The building is 112 ft. long and 80 ft. deep and is set on a lot 150 ft. by 175 ft.

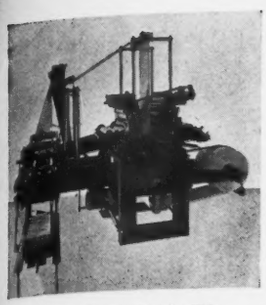
The two-story building is fire-proof and of reinforced concrete and steel construction. The building, which sets back 25 ft. from the sidewalk, is of light-colored vitrified brick with terra cotta trim.

It was not until after nine months of intensive study by the architects and owners, that the many unique features which the building comprises were incorporated into the building plans.

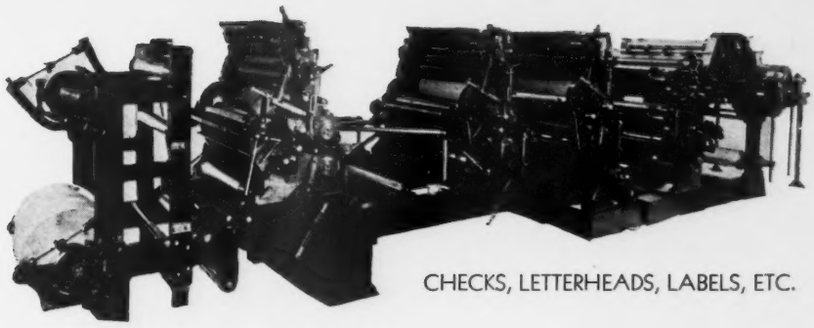
Heating-Humidifying-Ventilating System

Chief of these, perhaps, are the complete, automatically-controlled, heating-humidifying and ventilating system for winter use, and a cooling de-humidifying and ventilating system for summer use. The *Press-Citizen* building is one of the first newspaper buildings in the United States to be thus completely equipped.

Through this plant, the air will be filtered for purity and properly conditioned throughout the year under all conditions without recourse to window ventilation, as all air used in the building is brought in through an air intake shaft from above the roof.



PATTERN CHARTS

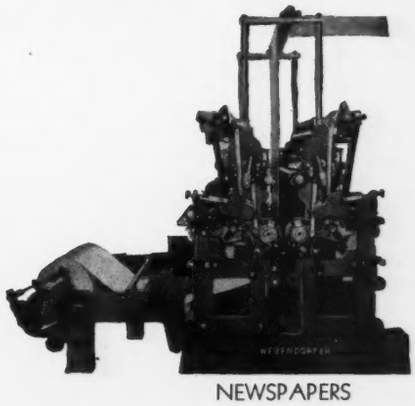


CHECKS, LETTERHEADS, LABELS, ETC.

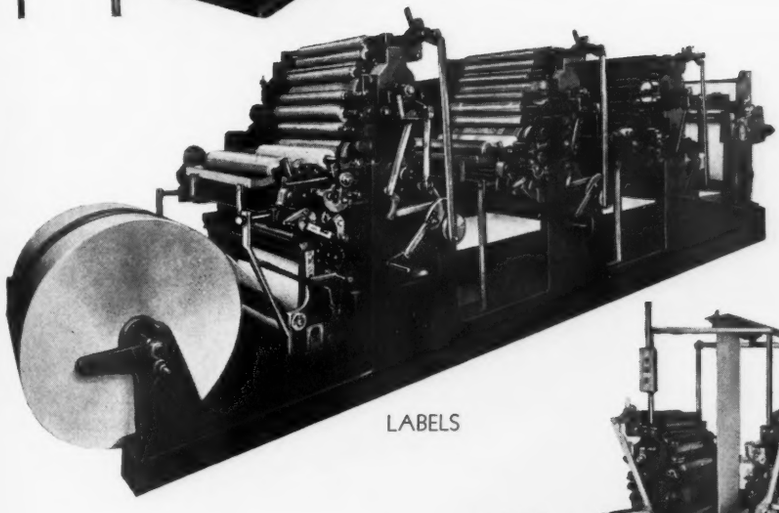
BOOKLETS, PROGRAMS

More Web Reel Feed Offset Presses in the U. S. A. today carry the Webendorfer name than all other makes . . . COMBINED

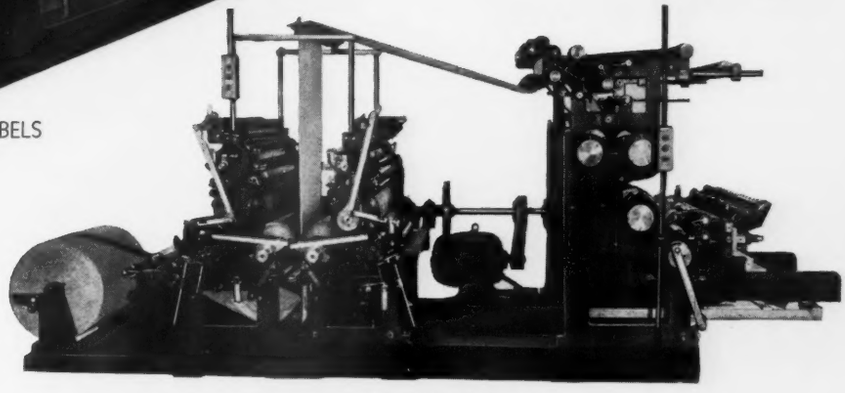
SALESBOOKS



NEWSPAPERS



LABELS



MAGAZINES

INVESTIGATE

American Made by

WEBENDORFER-WILLS CO., INC.

Builders of Printing Machinery for Over Thirty Years

MOUNT VERNON NEW YORK, U. S. A.

VIEW OF ONE SIDE OF THE PRODUCTION DEPARTMENT IN NEW PLANT OF THE *PRESS-CITIZEN*, IOWA CITY, IA. THIS VIEW SHOWS THE COMPOSING, STEREOTYPE AND PRESS DEPARTMENTS.

All dust and dirt are eliminated from the building by the glass brick panels which take the place of regular windows. This feature also assures constant air conditioning. The glass bricks are about 12 in. square by 4 in. thick. They are hollow with partial vacuum and walls of glass are about ¼ in. thick. Use of these bricks eliminates all condensation, frosting, drafts and heat losses in the winter, and in summer eliminates excessive sun rays, the use of screens or awnings.

In all seasons of the year there is assured absolute control of air conditions with uniform daylight under varied exterior weather conditions.

Interior Finishes

Floors, in the office areas, are of asphalt tile. Those in the production department are of wood paving blocks known as Kreolite. Washroom floors are constructed of ceramic tile.

The lower portions of wall surfaces in all rooms, except the lobby and general office, are of glazed brick tile with plaster above to the ceiling. Above the brick tile in the production department the walls are of smooth light-colored brick.

All interior partitions are of glass brick, the same as are used for exterior glass brick panels. Door frames are of steel and all surfaces are finished flush. No protruding wood casings or trim moulding were used.

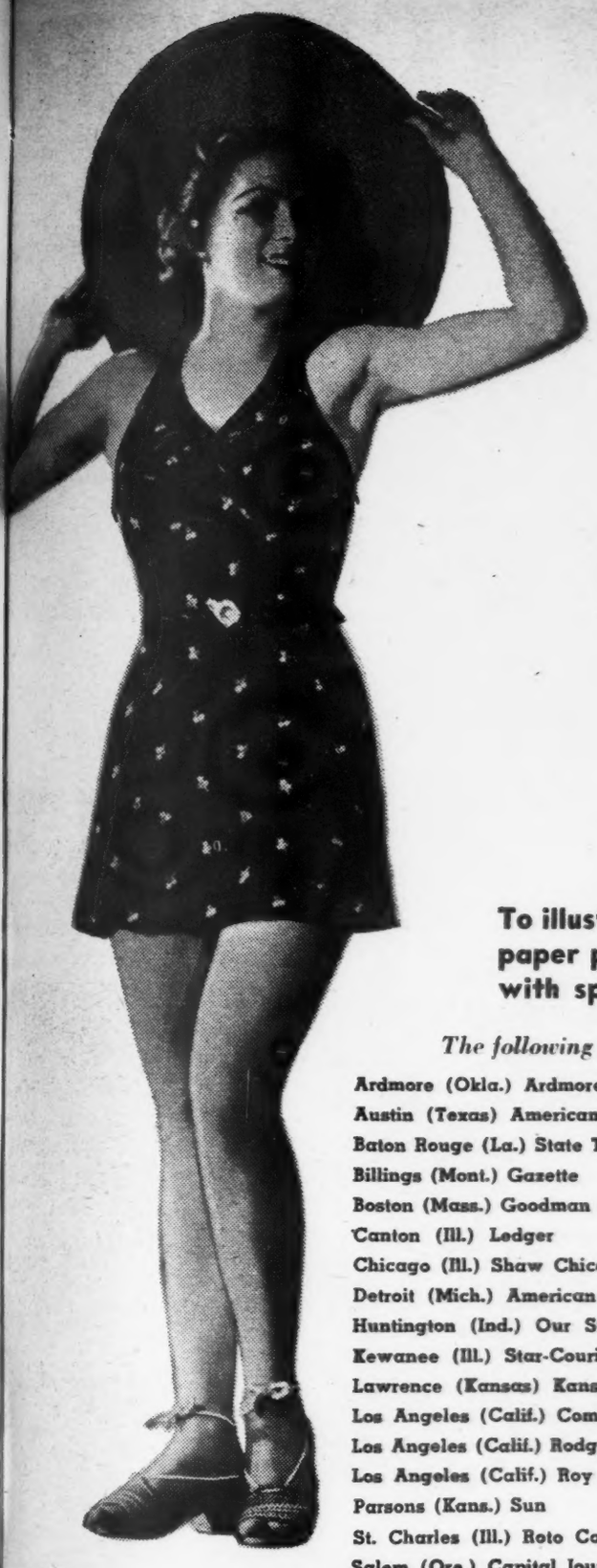
The lobby is finished in walnut paneling with chrome-metal trim on the counter, railings and stairs. The lobby ceiling has a cove to conceal lighting units.

Indirect lighting is used in all office rooms, the lobby and corridors. The ornamental lighting fixtures are of aluminum with satin finish and reflect the glow from the lights against the acoustic cork-tiled ceilings which predominate throughout the building.

Results of logical arrangements of the floor plan are exemplified in the exterior of the building in a plain, direct manner. Though no attempt was made to obtain an elaborate architectural design, the exterior possesses a solid dignity and good proportions, arrived at in a direct way by simple handling of masses in a modern manner and without attempting to use any particular architectural style or the use of projecting cornices. The plain design expresses fully the modern trend in building architecture.

MECHANICAL DEPARTMENT LAYOUT AND BUSINESS-EDITORIAL ROOM PLANS IN NEW BUILDING OF IOWA CITY *PRESS-CITIZEN*.

3a—Model G—2SM Intertype
3b—Model 14 Linotype
3c—Model 26 Linotype
3d—Model 8 Linotype
3e—Model B Intertype
3f—Model C Intertype
3g—Space for future machine
2 —Proofreading room
1 —Shop Superintendent's Office
3 —Machinist Bench
4 —National Advertising Mat and Plate Filing Cabinet
5 —Machinist's Drill
6 —News Dump
7 —Hamilton Makeup Table
7a—Makeup Trucks
8 —Wesel Galley Proof Press
8a—Magazine Rack
9 —Hamilton Makeup Table
10 —Hamilton Makeup Table
11 —Ad Dump
12 —Full Page Vandercook Proof Press
13 —Ad Layout Desk
14 —Type Case
15 —Ludlow Cases and Material Storage
16 —Type Case
16a—Miller Saw
17 —Ludlow
18 —Elrod
19 —Goss Mat Rolling Machine
20 —C.&.G Stereo Saw and Tables
21 —Hammond Router
22 —Plate Cooking Sink
23 —Flat Casting Box
24 —Curved Plate Router
25 —4500 lb. Goss Stereotype Pot and Pump. Kemp Immersion Burner
26 —Goss Tail Cutter
27 —Goss Oil Pressure Broach
28 —Mailing Benches and Mail Boy Rack
29 —24-Page Goss Unitube Press



DRESS UP YOUR NEWSPAPER WITH COLOR

THIS INSERT WAS PRINTED ON A UNITUBULAR

To illustrate the possibilities of color printing on a newspaper press designed especially for plants not equipped with special color presses.

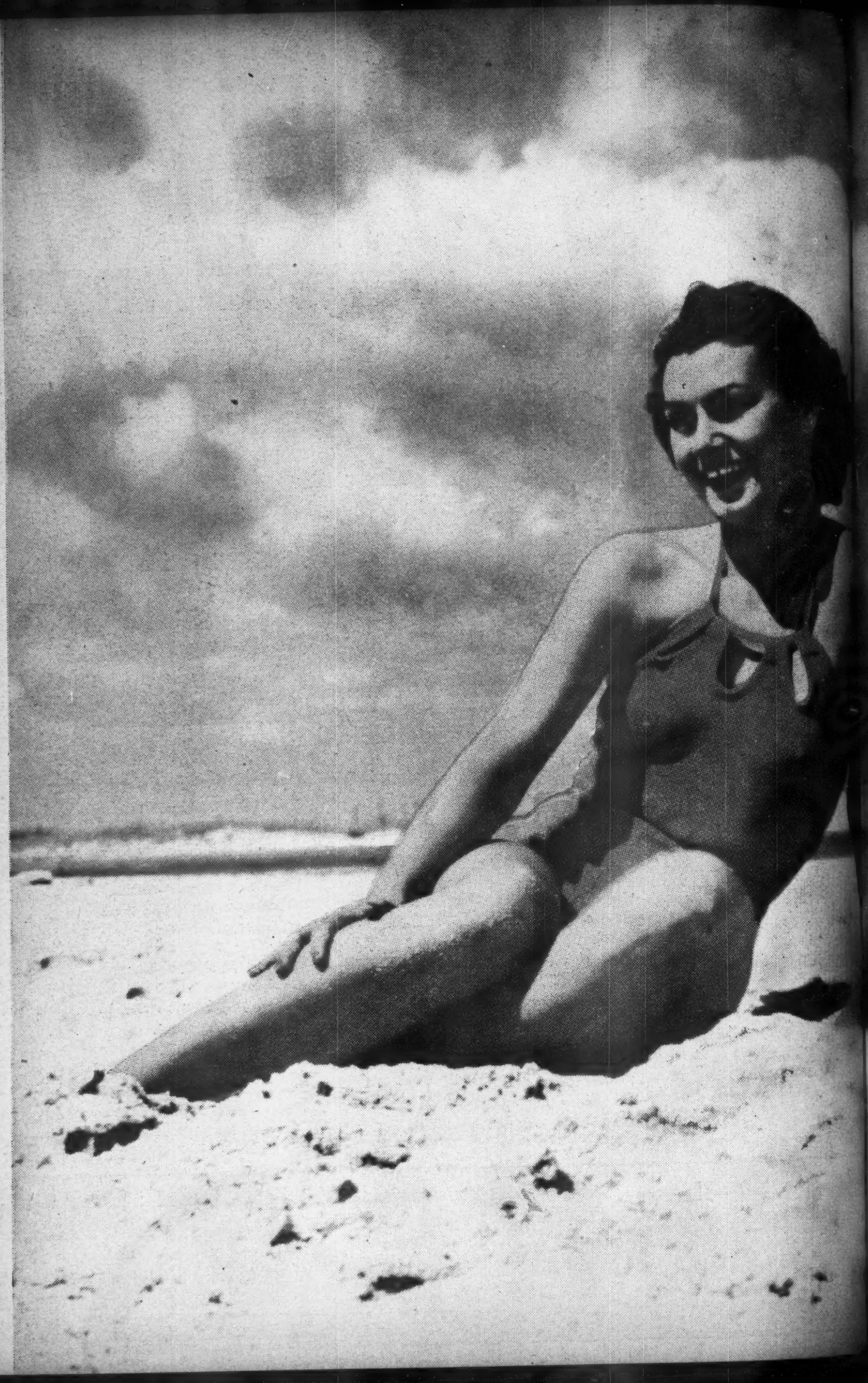
The following are equipped with Unitubular Presses for Color Printing:

Ardmore (Okla.) Ardmoreite
Austin (Texas) American-Statesman
Baton Rouge (La.) State Times
Billings (Mont.) Gazette
Boston (Mass.) Goodman Bros.
Canton (Ill.) Ledger
Chicago (Ill.) Shaw Chicago Ptg. Co.
Detroit (Mich.) American Pub. Co.
Huntington (Ind.) Our Sunday Visitor
Kewanee (Ill.) Star-Courier
Lawrence (Kansas) Kansas Color Press
Los Angeles (Calif.) Compton Ptg. Co.
Los Angeles (Calif.) Rodgers & McDonald
Los Angeles (Calif.) Roy E. Shadle
Parsons (Kans.) Sun
St. Charles (Ill.) Roto Color, Inc.
Salem (Ore.) Capital Journal
Seattle (Wash.) Buyer's Guide
Sterling (Ill.) Gazette
Syracuse (N. Y.) Syracuse Color Press
Toledo (Ohio) Ameryka Echo
Walla Walla (Wash.) Bulletin
Waltham (Mass.) News-Tribune
Wooster (Ohio) Record

Canton (China) Tiger Balm
Caracas (Venz) La Esfera
Durban (So. Af.) Advertiser
Hong Kong—Tiger Balm
Johannesburg (So. Af.) Star
Montevideo (Uruguay) El Pais
Rio de Janeiro (Brazil) A Nota
Rio de Janeiro (Brazil) Telephone Co.
San Juan (P. R.) El Imparcial

DUPLEX

PRINTING PRESS CO., BATTLE CREEK, MICHIGAN



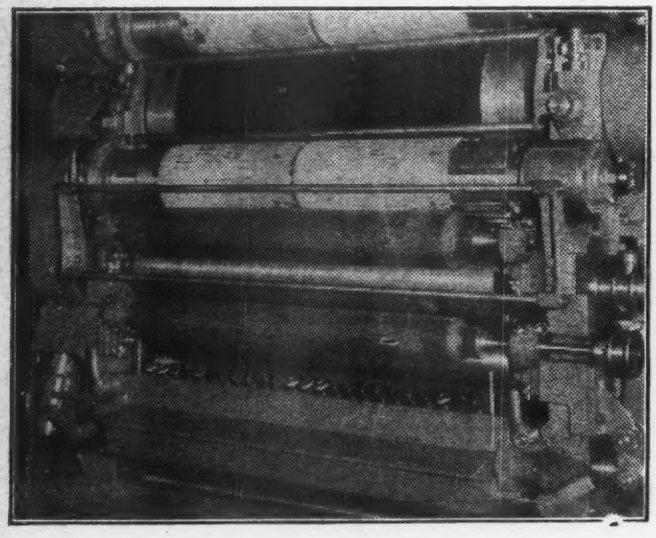
UNITUBULAR

WE RECOMMEND THE UNITUBULAR TO YOU BECAUSE:

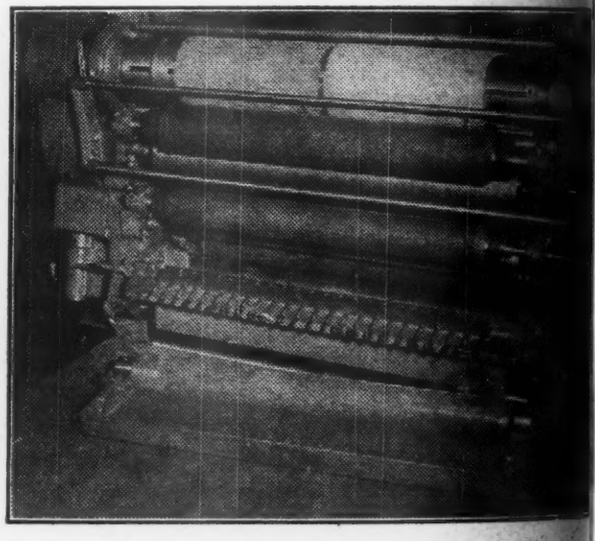
It is built by the originators of Unit Construction and "TUBULAR" design
Four pages per unit
All page combinations from two to full capacity
36,000 to 40,000 papers per hour from one set of plates
An extra color on each page if desired
Multicolor work with shortest possible leads from impression to impression

One plate per page to register
Quick lockup
Free passageway between units
Plating at a convenient height
Quick fold centering device
Micrometer impression adjustment
Anti-friction bearings throughout
Thrust bearings where needed
Visual control of color distribution

All Unitubular Units are now equipped with removable-interchangeable fountains as illustrated below. Both black units and color cylinders are thus equipped.



Unit Equipped with Removable-Interchangeable Fountains



Fountain Removed and Blade Turned Back for Cleaning

DUPLEX

PRINTING PRESS CO., BATTLE CREEK, MICHIGAN

PRINTED BY ROTO-COLOR, INC., DIVISION OF PIONEER PUBLISHING CO.

MAILING VESTIBULE
CARRIER ROOM
MECHANICAL DEPARTMENT
VAULT
BUS. MGR.
REF. RM
NEWS ROOM
GENERAL OFFICE
PUBLIC LOBBY
ADVERTISING DEP'T.
OFFICE
MAT FILE
JANITOR
MEN
DISPLAY RM.
ADV. MANAGER
FILE
PHONE
WOMEN
TELETYPE ROOM
EDITOR
CL.
UP
DWN
1
2
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3A
3B
3C
3D
3E
3F
3G
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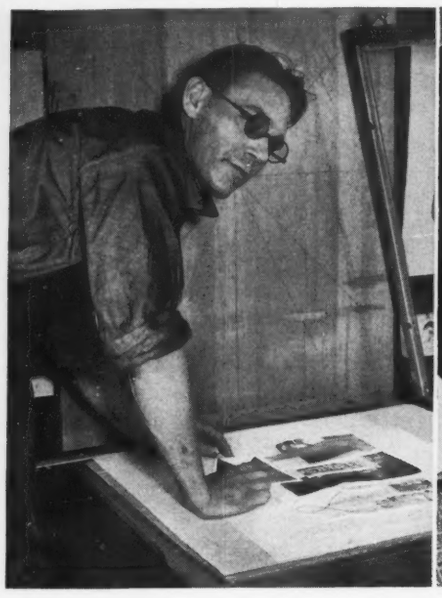
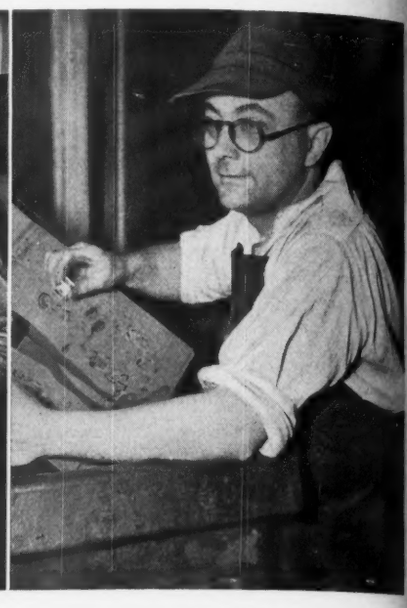
THREE MECHANICAL EXECUTIVE CHANGES IN NEWSPAPER FIELD



WILLIAM BARTH

LOY LOVEETTER



H. P. SCHULTZ

W. W. Wever, Mechanical Superintendent of the Dayton (O.) *Daily News*, has announced several mechanical executive changes in the plants of the Dayton *News* and the Miami (Fla.) *News*.

William Barth, night foreman of the Dayton *Daily News*, has been promoted to the position of foreman of the Miami *News* photoengraving department.

At this time Mr. Wever also announces that Loy Loveetter, a member of the pressroom of the Dayton *News*, is being transferred to Miami where he will take charge as pressroom foreman of the *News*.

H. P. Schultz of the Toledo (O.) *News-Bee* will fill the vacancy caused by Mr. Barth leaving for Florida as night foreman of the Dayton *News* engraving room.

Both the Miami and Dayton newspapers are members of the News League, owned by former Governor of Ohio James M. Cox.

Air-Conditioned Plant

(*Continued from Page 34*)

Inviting Entrance Approach

An inviting entrance approach is formed by long, wide steps flanked on either side by pylons containing floodlights on the building sides which are used for night illumination of the exterior. Through the glass brick used on the street side of the pylons, sufficient light is transmitted to illuminate the steps and approach without use of customary light standards. At the top of the steps there is an attractively designed paved plaza, 30 ft. wide and extending 18 ft. to the building.

A wide masonry opening, running the full height of the lobby, with white metal and glass brick above and the entrance doors flanked by plate glass windows, is the motif of the main entrance. The entrance metal doors are of a dull silver finish. A sculptured terra cotta panel, symbolic of the many methods employed for the dissemination of news from and to all parts of the world, forms an attractive design over the top of the entrance opening.

Dedicated to and symbolizing the two institutions for which Iowa is famous—agriculture and education—are sculptured panels in each of the large pylons on either side of the entrance. The work is in low relief and is treated in a conventional manner. Representing a pack of newspapers on end as delivered by the press, fluted pilasters flank the entrance and between the glass brick panels on the street elevation.

In bright metal are the words, "Iowa City Press-Citizen," affixed to the background in modern manner.

Comfort for Employees

Housed in this modern plant of industry which provides its employees with almost every imaginable comfort and convenience are neatly appointed offices for editors, department managers and executives. Not missing are ample facilities for the comfort and convenience of the public.

New desks in the editorial, business and executive offices are blue-grey steel with aluminum satin finish. Chairs are of aluminum, finished in blue leather. Filing cabinets match the desks.

HAVE A HOBBY—RIDE IT HARD

Nashville Banner.
NASHVILLE, TENN., MONDAY AFTERNOON, DECEMBER 7, 1936
16 PAGES
Salt Lake Telegram
SALT LAKE CITY, UTAH, WEDNESDAY EVENING, DECEMBER 2, 1936.
The Burlington Free Press.
BURLINGTON, VERMONT, TUESDAY, DECEMBER 15, 1936.
DAILY NEWS
FINAL
NEW YORK'S PICTURE NEWSPAPER
New York, Friday, December 11, 1936
The Evening Star
WITH SUNDAY MORNING EDITION
WASHINGTON, D. C., THURSDAY, DECEMBER 10, 1936—SIXTY-SIX PAGES
CLEVELAND PLAIN DEALER
CLEVELAND, TUESDAY MORNING, JANUARY 12, 1937
Des Moines Sunday Register
THE NEWSPAPER IOWA DEPENDS UPON
DES MOINES, IOWA, SUNDAY, DECEMBER 13, 1936.—EIGHTY-SIX PAGES—SECTION FIVE
THE RICHMOND NEWS LEADER
RICHMOND, VIRGINIA, MONDAY, DECEMBER 14, 1936
32 PAGES
The Tulsa Tribune
Tulsa's Leading Newspaper With Leased Wire Service of the Associated Press, United Press, and International News
TULSA, OKLAHOMA, FRIDAY, DECEMBER 4, 1936
FORTY PAGES

KEEP GOOD COMPANY

Here are a few of the many newspapers in all parts of the country using Booth's Zink Cut Cement. Investigate this important production help.

E. A. BOOTH RUBBER COMPANY

364 ROCKEFELLER BUILDING · CLEVELAND, OHIO

Sixteenth Annual Conference On Printing Education

An outstanding program has been arranged for the sixteenth annual conference on printing education. The conference will be held at Hotel Knickerbocker, Chicago, on Monday, Tuesday, Wednesday and Thursday, June 28, 29, 30 and July 1.

Educational Director Fred J. Hartman of the National Graphic Arts Education Guild, has announced that some fifty speakers will be called upon during the four-day meeting. Mr. Hartman also states the executives of the association are keeping in mind two main objectives; To keep teachers informed on present-day industry developments and to work towards a national program of printing education for the different types of printing schools.

Among the other important sessions, that of Wednesday, June 30 will be devoted to technical developments in the industry. At this meeting John A. Backus, Educational Director of ATF, Inc., Elizabeth, N. J., will be chairman. Sol Hess, Associate Art Director, Lanston Monotype Machine Co., will discuss "Type and Typography." Kenneth Hunt, Champion Paper Co., will talk on "Paper." "Color and Ink" is the subject of a paper by Dr. L. M. Larsen and Fred A. Weymouth, Products Development Laboratory of the Interchemical Corporation, Chicago. "Equipment and Processes" will be discussed by A. G. Fegert. A luncheon, group inspection visits and annual conference dinner will take place on this same day.

On the second floor of the building are located the publisher's suite, the board of directors' meeting room and a large assembly hall.

A large glass panel along the south wall of the second floor lobby provides visitors with a view of the mechanical department, composing room, stereotyping department, press room, mailing room and carrier boys' room which are located in the rear portion of the building.

Locker rooms, washrooms and showers for employees of the production department are located on a mezzanine floor of the department.

Mechanical Equipment

A 24-page Goss Unitube press, with three color units, was installed in the new plant. All new stereotyping equipment was purchased. The metal pot is completely insulated and equipped with a Kemp Immersion gas burner. Six line-casting machines, an Elrod strip material caster, a full page Vandercook proof press, a Wesel electric galley proof press, and two Cost-Cutter saws, comprise the chief new equipment in the mechanical department.

New makeup tables with material banks located under the top directly at the workman's fingertips replace all turtles formerly used. Two new Smouse transfer trucks transport the forms to and from the mat rolling machine.

All line casting and material machines are equipped with the Monomelt System.

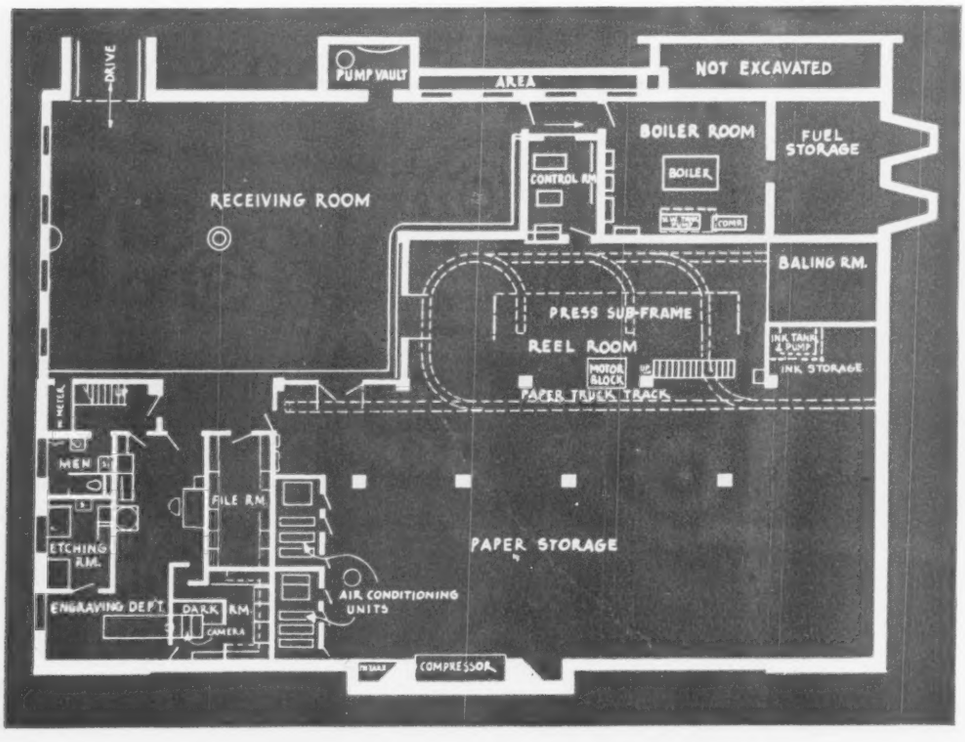
Ink for the press is supplied from a tank located in the basement from where it is pumped directly to the fountains. The flow of ink into the fountains is regulated by weighted handle valves.

The production department is arranged to provide a single, complete line of production throughout the plant, from the advertising and editorial rooms through the mechanical departments to the mailing room, all on the same floor.

The photographic and engraving departments are housed in the basement and include the latest equipment.

Merritt C. Speidel is president and publisher of the Iowa City *Press-Citizen* and president of the Salinas (Calif.) *Morning Post* and *Index Journal*, the Chillicothe (O.) *Scioto Gazette*, and the Fort Collins (Colo.) *Express-Courier*. Harry S. Bunker is general manager of the *Press-Citizen*, Guy J. Chappell is superintendent of the plant and is vice president of the Iowa Daily Newspaper Mechanical Conference, Malcolm Ean is production department machinist.

The building was designed by Kruse & Klein of Davenport, Ia., and the general contract was held by the Priester Construction Company of Davenport, Ia.

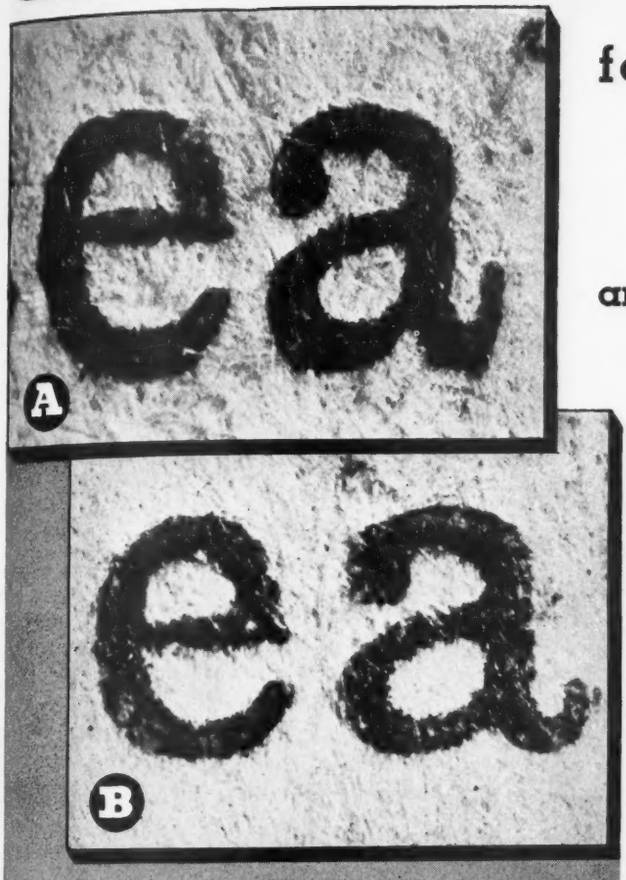


BASEMENT FLOOR PLAN IOWA CITY (IA.) *PRESS-CITIZEN.* The basement floor plan of the Iowa City (Ia.) *Press-Citizen* contains the boiler room and the air conditioning units which keep the air throughout the building at the proper temperature during all seasons of the year. The air conditioning equipment was manufactured by General Electric. The reel room, paper track, ink tank and paper storage are also located in the basement. The photoengraving department is shown in the lower left portion of the diagram.

MODERNIZE

for READING-EASE—

and build ADVERTISING LINAGE



STUDY THESE PHOTOMICROGRAPHS FROM TWO OF AMERICA'S LEADING NEWSPAPERS

Samples of body text, selected at random, mounted together, photographed on a single negative—enlarged 30 times.

A

From a paper printed with MORRILL INKS—note bolder, more uniform coverage and cleaner edges—insuring maximum legibility, outstanding reading-ease.

B

From a paper printed with other ink. Note the difference in reading-ease.

MODERNIZE WITH *Inks* BY

MODERN legibility in your news columns—the background for advertising display—provides the all-important *reading-ease* which reduces eyestrain, gains longer reading-time for every copy you print, and has a vital influence on the response your advertisers receive. That is why greater *reading-ease* heads the modernization plans of many far-sighted publishers.

You can depend on MORRILL for constructive help in gaining greater *reading-ease* for *your* newspaper. Morrill News Inks give bolder, more uniform coverage of type faces and sharper, cleaner printing around type edges—which promotes maximum legibility of text matter, reduces readers' eyestrain, and permits reading of your paper for a longer period of time. Morrill Inks provide strong, smooth coverage of large type faces and solid areas . . . clear, vivid halftones full of sparkling detail . . . and economical, trouble-free production.

In modernizing your newspaper, it will pay you to learn how Morrill can help you secure greater reading-ease, an effective ally in building advertising linage. Without obligation, 'phone, wire or write the nearest Morrill branch NOW.

MORRILL

STANDARD OF THE NEWSPAPER WORLD

★ LEADERSHIP

Year after year Morrill leads the world with the largest tonnage sales of any manufacturer anywhere. Again in 1936 Morrill stepped ahead with the largest increase in deliveries of Morrill News Black and News Color Inks in 9 consecutive years.

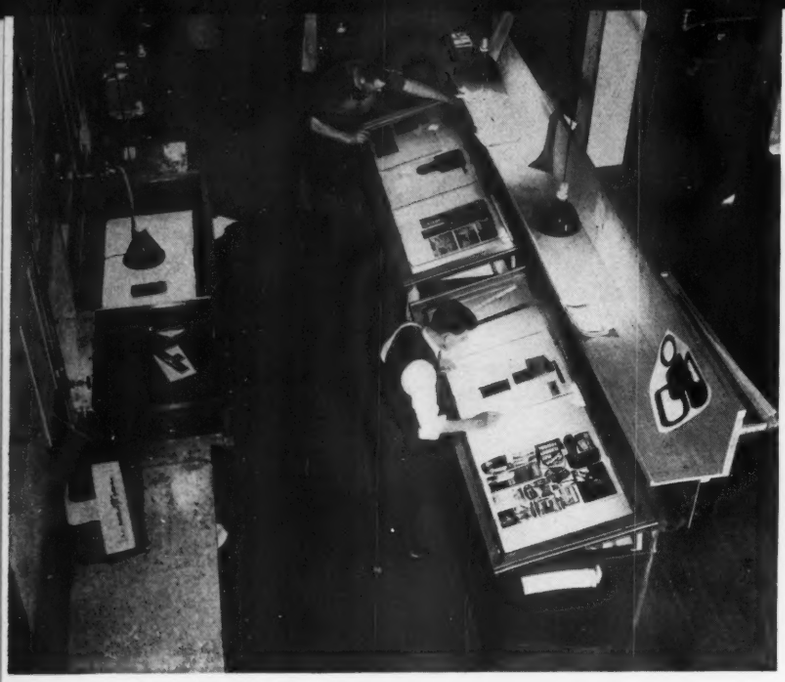
GEO. H. MORRILL CO.

Division GENERAL PRINTING INK CORPORATION

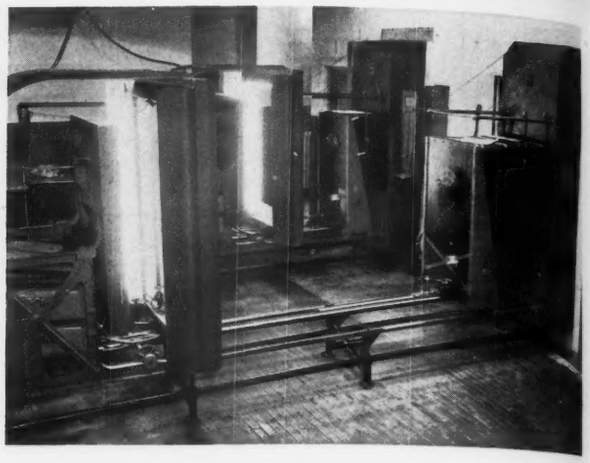
100 SIXTH AVE., NEW YORK, N. Y.

FACTORIES • Norwood, Mass. • Tacony, Phila., Pa. • Chicago, Ill. • San Francisco, Calif.

BRANCHES • Boston • New York • Philadelphia • Detroit • Chicago • St. Louis • Minneapolis • Fort Worth • Los Angeles • San Francisco • Seattle



Overhead view of stripping department in photoengraving department of Cleveland *Plain Dealer*. There is room for six flats on the stripping tables. At the left can be seen the window through which the developed film is passed into the sink from the darkroom.



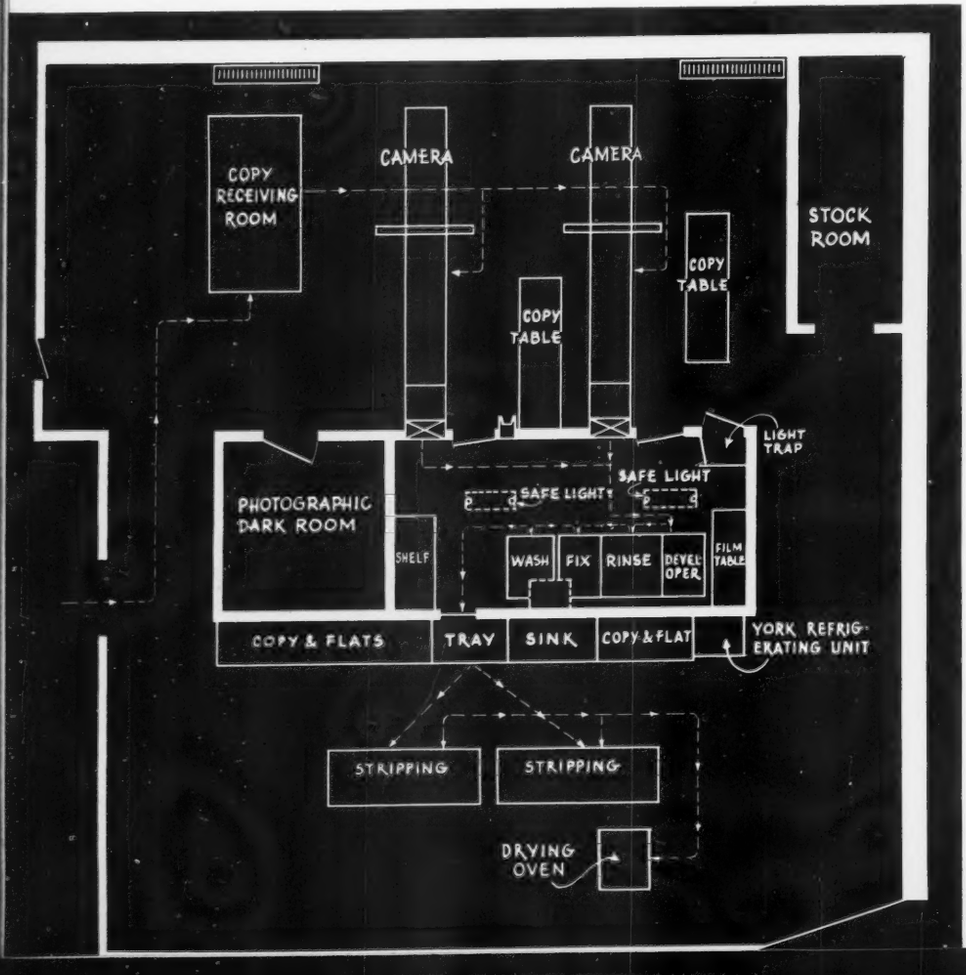
View of two cameras in Cleveland *Plain Dealer* photoengraving department. The cameras have been mounted darkroom style to carry out the straightline production idea. As will be seen in the accompanying layout diagram, the copy reaches the receiving table alongside each camera. The stripfilm is placed in the camera from within the darkroom. After exposure, the film is taken to the developing tray just a few feet from the camera.

Fast Engraving Production

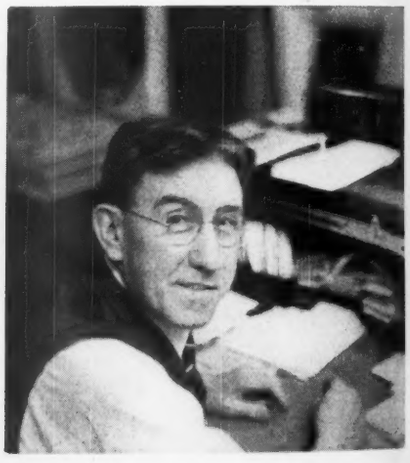
AN EFFICIENT photoengraving department is now in operation in the plant of the Cleveland *Plain Dealer*. Not only has the department been remodeled for straight-line operation, but considerable new equipment has been added to improve the product and speed up production. Fred F. Uhl, superintendent of the department, has so planned the equipment layout that there is no back-tracking of the work once copy has been delivered to the receiving table shown in the accompanying diagram.

The new equipment consists of two large size Chemco Stripfilm Cameras which have been installed darkroom camera style, proportion finding instruments, new darkroom equipment with solution temperature regulator, Chemco drying oven and plate whirler.

One of the Chemco cameras is arranged for 6 in., 9½ in. and 13 in. Stripfilm. This arrangement provides for maximum half-page size either vertical or horizontal position. The other camera is fitted to accept 6 in.,



This diagram shows the copy receiving, camera, darkroom and stripping sections of the Cleveland *Plain Dealer's* photoengraving department. The equipment has been arranged for straightline operation. A study of the diagram reveals the efficiency of the layout. Note the light trap which permits entering or leaving the room while development is in progress.



Frederick F. Uhl, Superintendent Photoengraving Department, Cleveland *Plain Dealer*, doesn't mind candid camera "approaches."

It's too late to hire Paul Revere

–but we're anxious to spread this message!

TO PRINTERS in every village, hamlet, town and city, we want to flash the good news that roller problems are ceasing to be the bane of a printer's life.

The hearty cooperation and countless suggestions received from members of the graphic arts industry have resulted in an Ideal Roller for every purpose. They are the rollers *you* have helped to develop by confiding your needs and desires. To your suggestions we have added our knowledge of materials and fine craftsmanship.

Looking to the future, we are constantly experimenting to develop newer materials to meet the coming superspeed presses, the new ink formulas and the ever-widening range of paper stocks and materials to be printed. We are trying hard to keep ahead of the progressive printers.

The man who pays the roller bills also has had something to say, with the result that rollers from Ideal are most economical, not only in cost but in time-saving operation. The high quality of work produced with Ideal Rollers is an important factor in gaining and holding satisfied customers.

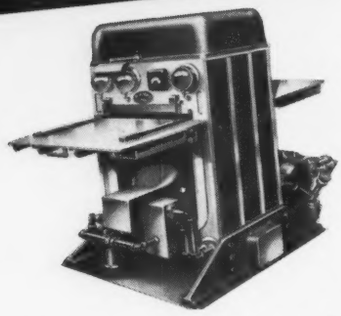
An Ideal representative will be pleased to make a special survey of the requirements of your plant.

IRC

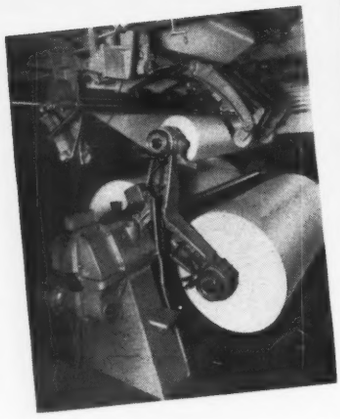
IDEAL ROLLER & MFG. CO.

CHICAGO · · · NEW YORK

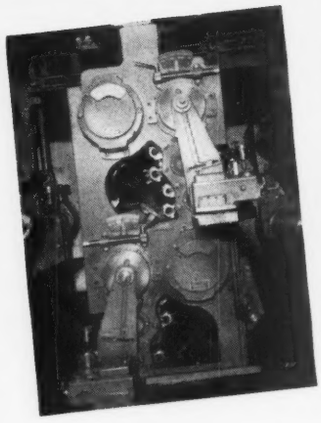
Branch sales and service offices are located in principal cities

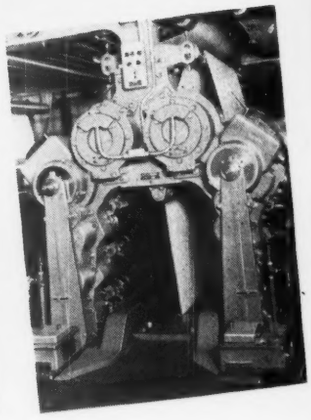


One example of Hoe's skill with plate-making machinery is the recently designed Direct-Pressure Matrix Molding Press. It speeds mat molding, makes more perfect impressions and assures more accurate color register . . . all with remarkable simplicity of operation. Equally important is the complete line of standard Hoe equipment including register racks, mat rollers, casting molds, shaving, bending and forming machines . . . all modern in design and built to high standards of precision. Their operating efficiency will remove much of the headache from plate-making problems. Write for special literature describing any or all of these devices.

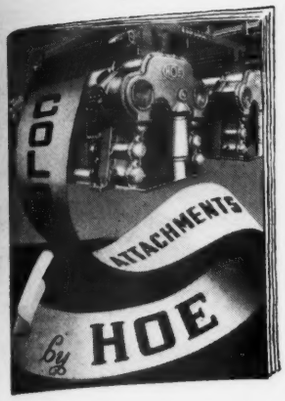


With Reels that are designed for speedy and effortless roll-loading, with Full-Automatic Electric Tensions that require no attention from the operator, with Full-Speed Pasters that produce splices at the full speed of the press easily and consistently . . . Hoe has perfected the modern means of handling webs at high speed . . . eliminating shut-downs and slow downs for roll changes. To appreciate the remarkable simplicity of this modern equipment see the Hoe Motion Picture . . . "Going to Press," or if you are not visiting the conference, write for a complete description.

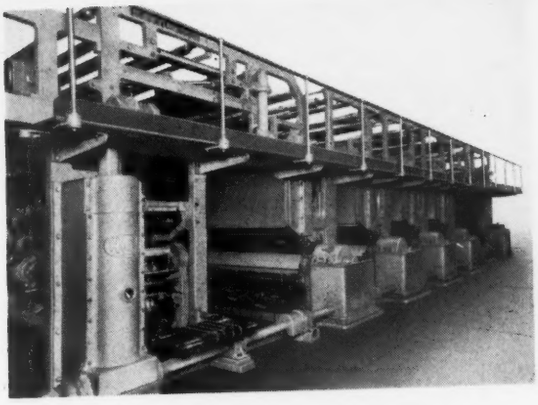




Top-flight efficiency in newspaper printing is embodied in Hoe's two standard designs, the Arched-Type and Vertical-Type Super-Production Newspaper Presses. A host of modern mechanical refinements, first pioneered and later perfected by Hoe, but too numerous to mention here, explain the success with which these high-speed presses have cut the period of time between "dead-line" and "delivery," at the same time making possible the production of better-printed newspapers, while increasing the safety of the operator with many features of Hoe design. Much of the country's older but serviceable equipment is made unprofitable to operate by these modern Hoe Presses. We'll be glad to show you why.



Too much for illustration and description here, the comprehensive Hoe line of color equipment covers the complete range . . . from a simple auxiliary color fountain . . . to such equipment as the 26-unit Super-Production Multi-Color Newspaper Press recently installed at the Cleveland Plain Dealer . . . the world's largest, fastest and most modern ever built. Between these two extremes there is available a great variety of auxiliary equipment and special facilities to produce newspaper color work under every conceivable printing condition. The complete line is illustrated and described in a new bulletin . . . "Color Attachments by Hoe." If color concerns you in any way, write for a copy.



Four large orders in a row within the last several weeks . . . show how the publishers and printers of America turn to Hoe for the latest and most efficient rotogravure equipment. Not only throughout the United States but even in far-off Australia modern Hoe high-speed multi-color Rotogravure Presses are demonstrating new operating economies and delivering superior quality press-work with accurate register. On multi-color work these modern Hoe Presses operate at 15,000 to 20,000 cylinder revolutions per hour . . . the equivalent of 30,000 to 40,000 papers per hour . . . and at even higher speeds when running monotone work. We'll be glad to show you the reasons for selecting rotogravure equipment by Hoe.

See the movie

WHILE ATTENDING THE MECHANICAL CONFERENCE

"GOING TO PRESS"

the new Hoe sound picture tells the detailed story of the making of the modern newspaper with Hoe Arched- and Vertical-Type Super-Production Newspaper Presses, Hoe Super-Production Folders, Hoe Reels, Full-Automatic Electric Tensions and Hoe Full-Speed Pasters.

Several Showings Each Day At Hoe Headquarters

R. HOE & CO., INC.

General Offices:
910 East 138th Street (at East River)
NEW YORK CITY

BOSTON SAN FRANCISCO CHICAGO
BIRMINGHAM LONDON

9½ in. and 19 in. Stripfilm to accommodate full-page area 19 in. by 24 in. size.

The temperature of the developing and fixing solution is kept at 65 deg. In the winter this is accomplished by utilizing the city water supply and the hot water service in the building, all of which is automatically controlled by the Powers regulator. Since the city water supply is not of a sufficiently low temperature in the summer months, a York refrigerating unit suitably connected to coils under the various trays, with control equipment, will maintain the dark room solutions at a constant temperature of 65 deg.

The stripfilm method is used exclusively in the *Plain Dealer* photoengraving department, the wet plate having been abandoned immediately after installation of the new cameras.

It is interesting to note that the photoengraving output of Mr. Uhl's department averages 125,000 sq. in. per month, or a total of 1,500,000 sq. in. annually. Expressing production in another way, Mr. Uhl states that between 480 to 500 flats pass through his department each month. Each flat contains approximately 272 sq. in.

Announce Booklet on Newspaper Color Printing

Color for newspapers and the variety of ways in which it can be obtained are thoroughly covered in "Proved Color Attachments by Hoe," an illustrated 16-page booklet just released by R. Hoe & Co., Inc. In addition to describing color cylinders which provide extra colors without sacrifice of page capacity, the booklet covers the complete range from high-speed color presses to an assortment of auxiliary color fountains, portable ink pumps, portable ink rails and other means of providing color printing facilities. Copies may be obtained by writing R. Hoe & Co., Inc., direct or in care of *Printing* Equipment *Engineer*.

NEW INTERTYPE FACES

Intertype announces this month a new addition to its present Bodoni family. The new face is called Bodoni Thin and will be made in several sizes up to and including 60 point. The size shown below is 48 point.

BODONI THIN

Egmont Bold with Italic and Small Caps is being rapidly extended and now includes the 10, 12 and 14 point sizes. Orders are being taken for other sizes which are now in preparation.

THIS Paragraph is set in 14 point Egmont Bold *with Italic* 1234567890

INTERTYPE FIRST QUARTER

The consolidated statement of operations of the Intertype Corporation for the three months ending March 31, 1937, shows a substantial increase as compared to the same period last year.

Gross Profits before Depreciation		$523,462.62
Less: Head and Branch Office Selling Expenses		313,357.52
		$210,105.10
Less:		
Depreciation	$38,502.06	
Reserve for Taxes	45,003.58	83,505.64
Net Earnings		$126,599.46

The net earnings for the three months ending March 31, 1936, were $111,491.51.

The foregoing statement of earnings is in part estimated and is subject to adjustment at the end of the fiscal year.

Scoring Paper Stock

By STAFF WRITER *

Several methods described for scoring covers and bristols to obtain smooth fold.

SCORING cover and bristol stock correctly is not difficult, but like any other operation in the pressroom, there are right and wrong ways of doing it. The object in scoring cover or bristol stock, of course, is to provide a smooth, straight fold without breaking or cutting the fibres adjacent to the crease in the stock. The scoring itself should be done in such a way that the fibres will be loosened and will be free to bend without breaking.

Sharp devices like hair-line or one-point brass rules are not recommended for scoring rules. Experience has demonstrated that the best results will be obtained by using *round-faced* rules. Another important point is that a heavy press impression is not at all necessary and should be avoided, for a heavy impression tends to cut the fibres in the stock.

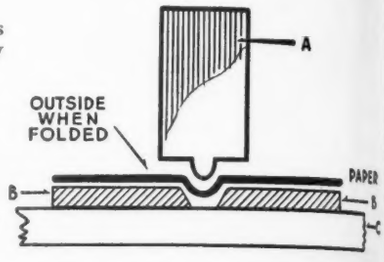


Fig. 1—Diagram illustrates round-faced rule method of scoring. *A* is the scoring rule on a heavy base or a standard 2-pt. steel round-faced scoring rule; *B* is the counter-die consisting of strips of hard cardboard or bristol strips pasted on each side of the impression which has been taken on the tympan, and *C* represents the tympan.

Round Faced Scoring

This method of scoring has proved to be satisfactory with or against the grain. The scoring rule itself is round-faced (this characteristic is very important in any method of scoring) on a heavy base or a standard 2 point steel round-faced rule. *A*, Fig. 1.

When this rule is locked in the form and placed on the press an impression is pulled on the tympan *C* which should be made up of a heavy piece of cardboard and an oiled top sheet.

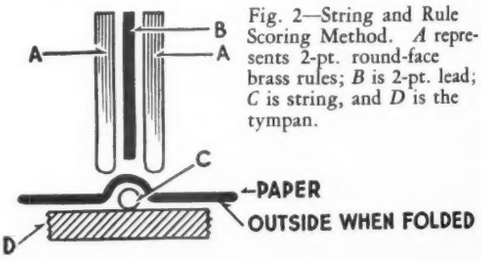
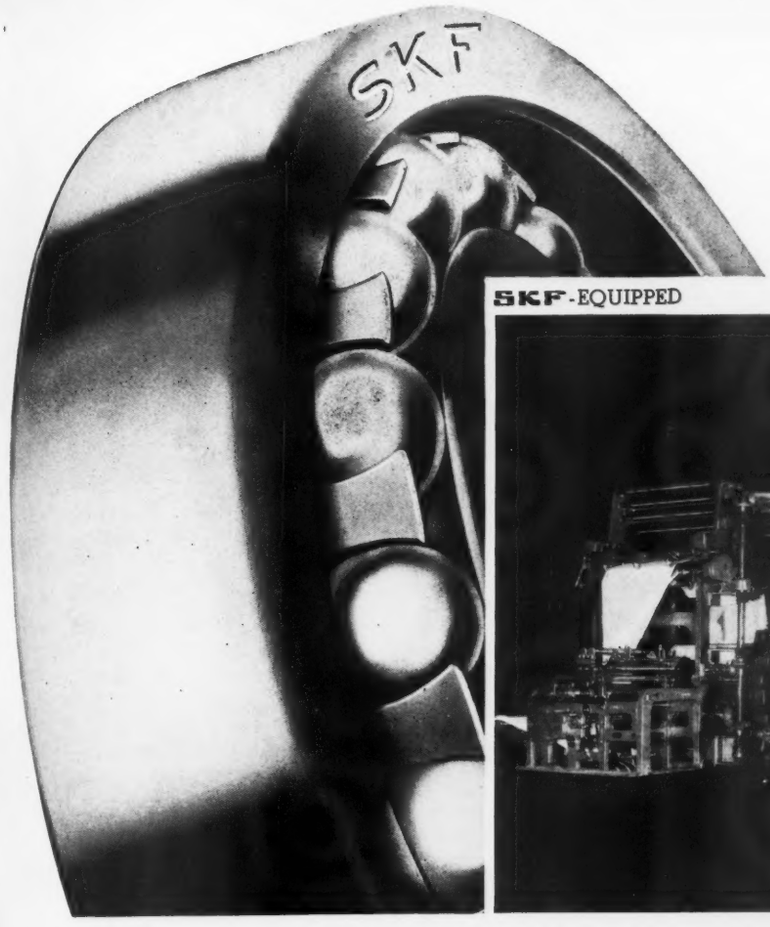


Fig. 2—String and Rule Scoring Method. *A* represents 2-pt. round-face brass rules; *B* is 2-pt. lead; *C* is string, and *D* is the tympan.

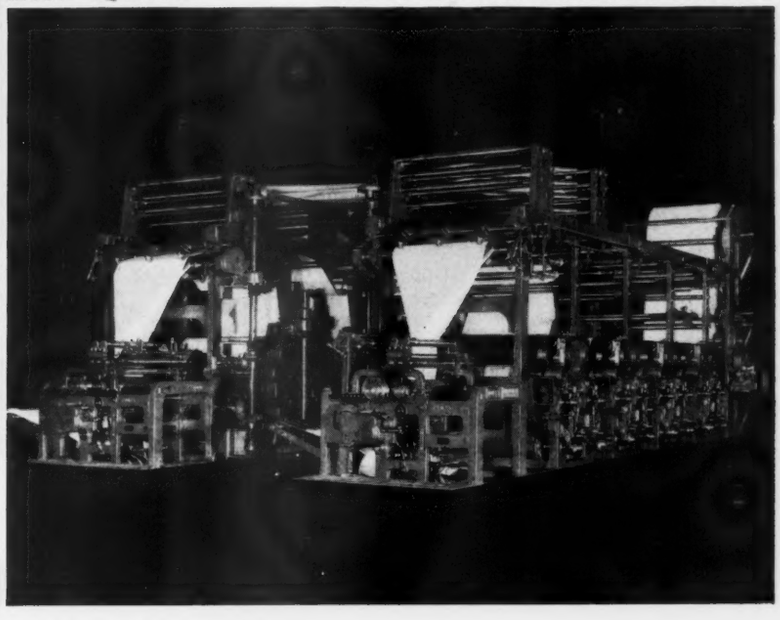
Beveled and smooth hard cardboard or bristol strips *B* are then pasted on each side of the impression. The channel so formed by these beveled strips acts as a counter-die. The width of the channel is determined by experiment and no set rule can be made for this feature. However, the channel must be wide enough to accommodate the scoring rule and the stock which is to be scored, without the exertion of great pressure.

(*Continued on Page 109*)

*Abstract prepared from information issued by Hammermill Paper Company.



SKF-EQUIPPED BUILT BY THE DUPLEX PRINTING PRESS CO.



40,000 NEWSPAPERS AN HOUR

prove the efficiency of SKF *on presses*

● PRINTING up to 40,000 sixteen-page newspapers per hour is the job of these Twinned Duplex Unitubular Presses. And keeping the rollers working efficiently is the job of SKF Ball Bearings.

That both jobs are done *right* is evidenced by freely turning cylinders that do not jump, and increased production at low operating costs. Whenever a machine runs at high speeds with unvarying accuracy and long life, you'll find it depends on SKF Bearings.

MORE THAN
1200
TYPES AND SIZES
Industry comes to SKF for unbiased bearing counsel because SKF makes practically all types of anti-friction bearings.

3889

SKF INDUSTRIES, INC., FRONT ST. & ERIE AVE., PHILA., PA.

SKF

BALL AND ROLLER BEARINGS

Control of Production

By WALTER OGDEN*

Inspection and checking system in newspaper pressroom prevents high pressure moments when edition must be printed.

"AN OUNCE of prevention is worth a pound of cure," is an old and potent proverb and is not more applicable any other place than in the pressroom of the daily newspaper. Forward thought and planning is as great an asset to the pressroom executive as the ability to act quickly and effectively when trouble breaks, because a little anticipation may save the necessity of high pressure action and also save a few of those precious moments in the average newspaper pressroom. To this end, all adjustments and changes, whether of rollers, impressions, packing or folders, should be made in the interim between editions rather than at the period when the presses should be pouring papers into the mailing room. A careful inspection of cutting rubbers may mean the prompt catching of a mail and, regular checking of impressions avoid the hysterical juggling of the impression set when the sheets wind in the cylinder at a time when many causes have to be considered. Also, incidental to impression setting, it has been the writer's experience that in some cases the removing of the impression wrench from the tool cabinet and giving access to it only to the man in charge of the press, or to the foreman, has resulted in much better operation. If the pressman knows by measurement that his cylinder circumferences are correct and if he knows—and by measurement also—that his impression indentation is correct, then his search for contributing causes for winders, etc., on the run can be limited very nicely to two things: *i.e.*, the paper stock and the plates, which also should be checked regularly for thickness, etc., granting, of course, that tension adjustments, sheet pull, etc., are correct and even.

Blankets and Other Material Records

The date of application of all blankets, rollers and other supplies are recorded and a pull-down as to length of service is available at any time. Each individual record can be reduced readily to the dollars-and-cents value which has been secured from each item entering into the production of his paper. He should test papers regularly to see if the newsprint is running over or under weight which is usually 32 lbs. to 500 sheets, 24 in. by 36 in. dimension. He also checks carefully his ink coverage which should never be less on newspaper operation (figuring an 8-column 22⅝ in. column length) than 4000 pages per pound.

Cylinder Packing

Blankets and top sheets must be watched carefully. When the packing shows sketchy printing, ghosting, etc., of solids and letterpress it is time to replace it regardless of the mileage secured. Too many pressmen do not attach importance enough to the advisability of using a resilient underneath blanket. To cut blanketing expense, many pressmen will put on a cheap underneath blanket and transfer the task of printing entirely to the top blanket with the resultant lowering of mileage in the top blanket.

National Printing Equipment Association

It has been announced by Secretary James E. Bennet that the annual meeting of the National Printing Equipment Association, Inc., will be held in Cleveland, October 11, 12 and 13, to run concurrently with the meeting of the U.T.A. which will also be held in Cleveland.

Sleeve Bearings on Older Presses

Modern presses are equipped with nearly 100% roller and ball bearings and with a minimum of care the worry of disaster from hot bearings becomes a thing of the past.

If plain sleeve bearings are used, care must be taken to see that proper lubrication is maintained at all times and that wear is taken up when needed. Each bearing for plate and impression cylinders is finished with a clearance of 0.003 in. for lubrication flow. While the writer has operated presses with as high as 0.030 in. wear in the cylinder bearings, it is a dangerous and impractical thing to do and is poor economy even if the management should insist upon it. Bearings should be taken up when the wear reaches at least 0.010 in. because this wear is productive of gear stripping, ghosting, jumping in the printing and poor production.

Modern presses are nearly 100 per cent roller and ball bearing and with a minimum of care the worry disaster from hot bearings becomes a thing of the past.

Rollers and Ghosting

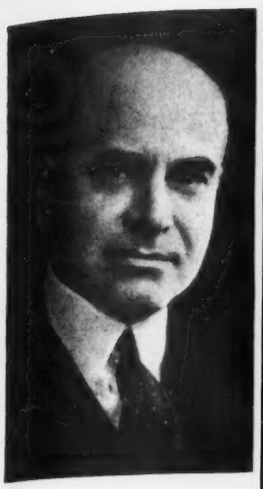
If rubber, rollers should be set sufficiently *heavy* to print the solids without the mottled appearance often charged off to blankets. A 7-in. form roller can and should be set to not less than 6 agate lines.

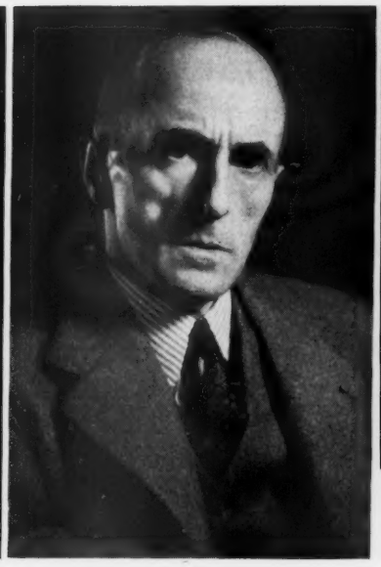
(*Continued on Page 109*)

*Pressroom Superintendent, The Cleveland *Press* and Pressroom Adviser to Scripps-Howard.

EIGHTEENTH ANNUAL CONVENTION
OF THE
INTERNATIONAL ASSOCIATION
OF PRINTING HOUSE CRAFTSMEN
•
CLEVELAND
Just an overnight jump from everywhere

AUGUST
8-11
FOUR DAYS
OF
EDUCATION
AND
PLEASURE





At left: William C. Huebner, President, Huebner Laroratories. Second from left: V. Winfield Challenger, Newly Elected President.

Third from left: M. Raoul Pellissier, Director, Gravure Foundation of America. Fourth from left: John Clyde Oswald, Re-elected Secretary.

MEN ASSOCIATED PROMINENTLY WITH GRAPHIC ARTS TECHNICAL CONFERENCE

Graphic Arts Technical Conference

By STAFF WRITER

Frank discussion dominates papers presented at annual meeting of Graphic Arts Research Bureau —Two hundred in attendance

AN unusual beginning was introduced for the two hundred registered delegates at the eleventh annual Graphic Arts Technical Conference which was held at the Hotel Commodore, New York, on May 6, 7 and 8. Plant visitation trips were the first order of business after registration. The plants of R. Hoe & Company and the New York *Daily News* were visited. At the Hoe plant there was a demonstration of high-speed newspaper unit printing and pasting—55,000 copies per hour. At the *Daily News* plant the delegation had an unexpected thrill. Just after their arrival, reports began to come in of the destruction of the airship Hindenburg at Lakehurst and before the inspection trip had been completed, they had the privilege of reading, in an extra edition, an illustrated story of the disaster.

EIGHTEENTH ANNUAL CONVENTION HEADQUARTERS · INTERNATIONAL ASSOCIATION OF PRINTING HOUSE CRAFTSMEN · CLEVELAND · AUGUST 8-11

Management Session

Friday morning's session was opened, in the absence of Edward Epstean, President of G.A.R.B., who is on a trip to Europe, by Vice President V. Winfield Challenger. The chairman of the session, which was on Management, was John Clyde Oswald, of the Gregg Publishing Company, and two addresses were made. The first was entitled "Training in the Printing Industry" by J. Henry Holloway, head of the New York Printing School. Mr. Holloway has had a long experience in vocational instruction as applied to printing and his address was most informative. He pointed out that education in printing falls roughly into two classes—one dealing with the employed apprentice, and one with the students who come from the public schools with intention to make their entry into printing through the training schools. The printing school renders a decided service to the industry by a process of selection—sometimes of rejection—the latter applying to applicants who prove early in their experience to be unsuited to a career in printing. Mr. Holloway further pointed out that there is existing need for textbooks, the useful volumes formerly published by the United Typothetae of America being practically out of print.

In the discussion which followed the address Hon. George H. Carter, formerly Public Printer of the United States, told something of the apprenticeship plan operated by him at the GPO and continued since his occupancy of the office.

W. M. Passano, treasurer of the Waverly Press, Baltimore, Md., held the close attention of the members with a paper entitled "Employer-Employee Relations —Wages." The system at the Waverly Press includes a division of hours of work in the mechanical departments to six per day. Employees are paid on the wage and not on the piece system. Standards of production have been set up which enable both employer and employee to profit by "bigger-and-better" results. The satisfactory outcome of operating the system has been a profit to both employer and employee. The work people are making as much in six hours as they formerly made in eight hours. Executives receive added compensation in the form of a share in the company's profits.

Better Article At Less Cost

Printing Equipment *Engineer* has received from Robert Williams, offset and letterpress printer, Dallas, Texas, a card which reads as follows:

The Government Says
"Produce a better article
at less cost."
We Are Trying.

This strikes an interesting note for the production executive in the printing plant by way of reminding him that obsolescence both of equipment and method has a direct bearing on production costs. Are you keeping yourself up-to-date?

Color Printing Progress Session

At the Color Printing Progress session on Friday afternoon, the chairman was William C. Huebner, of Huebner Laboratories, Inc. Papers were presented, as follows: "Color Gelatine Printing" by Rudolph E. Fehse, Consolidated Film Laboratories; "Color Offset Printing" by Herman A. Bernhardt, Latham Lithographic Company; "Color Rotogravure Printing" by M. Raoul Pellissier, Gravure Foundation; and "Enclosed Ink Fountain for Gravure Printing" by Frederick W. Bender, Manager, Alco-Gravure Division, Publication Corporation.

Photo Gelatine Developments

In Mr. Fehse's paper it was pointed out that great progress has been made in the Photo Gelatine process. Improvement has been effected in developing gelatine plates so that it is now possible to print 8000 impressions per day on rotary presses as contrasted with 2000 impressions per day on flat-bed presses. To quote Mr. Fehse: "The plates are coated in a vertical whirler and the procedure is as follows: A sheet of aluminum is grained so that the gelatine solution will adhere to it. The grained sheet is placed in a vertical whirler and heated. It is then washed with warm water. While the aluminum is wet a solution composed of gelatine water and bichromate of potassium is poured upon the center of the plate and allowed to spread all over the plate. The cover is closed and the heat is allowed to raise to 150 deg. F. in 20 min. The plate will then be dry and is ready for exposure.

"Using a continuous tone negative, an exposure in a vacuum frame with strong arc lamps is made upon the plate. The time of the exposure is from one to three minutes, depending upon the density of the negative. After the exposure the image is plainly seen upon the plate. The shadows are a dark brown and halftones are light brown.

"Then the plate is washed with water, eliminating the bichromate of potassium, which is the sensitizing agent. After washing, the plate is dried with fans and soaked for half an hour in a tank containing a solution composed of two parts glycerine and one part water. It is then ready for the press."

Color Rotogravure Technique

Mr. Pellissier's paper on Color Rotogravure Printing began with the statement that "most of the trouble, or perhaps I should say the difficulties, in producing first class colorgravure appear to concentrate in two places—in the color separation in the first place and in the second place in the printing. Efforts are being made to treat the matter of color in about the only way it seems likely to be solved. That is, by using stated pigments for the primary colors in the paints, water color or oil, that the artist may use to produce his originals and identically the same pigments in the inks used by the printer. Then too, the filters for the color separations are especially made to take care of these particular colors."

It was stated that "a process is now being developed whereby the relative proportions of each color in a given design are automatically registered on an instrument. In making subsequ nt separations the proportion of any one color may be decreased or increased automatically at will. This method will use no camera in any part of the work and it is claimed that no retouching will be necessary. Carbon tissue is done away with. The process is not reversed halftone but is genuine gravure. More than one of the clearest thinking minds in the world of science have combined to work on this method so there are strong hopes that it will shortly be available."

It was further stated that "a method is now being worked out that will make use of purely automatic retouching in no way affecting the artist's touch; this should prove a Godsend. In the old days almost all retouching was done by means of local reduction and intensification."

Color Offset Printing

Mr. Bernhardt said: "I could very easily say, about everything in the color line is being done in the Offset Color printing field, and have very few people dispute the statement. However, as Color Offset printing has demonstrated its dependability over such a large field, I will only mention the extreme ends. It lends itself to the reproduction of a very small subject, for example, a miniature portrait consisting of fine detail and color graduations can be reproduced by Color Offset successfully by using a 300- or 250-line screen so as to retain all the delicate color values in their proper relation. Negatives properly made of such subjects and photocomposed on a press plate will result in the highest quality of color reproduction work. From this we go to a twenty-four-sheet poster entirely made with Color Offset printing methods. Posters made in this way give all the graduation of color values that are in the better designs (original), plus the color vitality. The various individual subjects that come within that wide range are too numerous to mention here. Now, regarding the kind of paper or material that the press will take: For example, some years ago we printed by offset a portrait of a popular President of the United States on sandpaper, the subject being a menu folder for a special occasion. This might be classed as a stunt; however, the results were satisfactory. Multicolor Offset presses running two, three, and four colors are producing beautiful color work of high quality."

Enclosed Ink Fountain

Mr. Bender in speaking on "The Effect of the Enclosed Ink Fountain on Intaglio Printing" said: "The first press to be equipped with enclosed ink fountains produced two-color face printing and used a cold air blast for drying. The next practical application on a commercial press was a two-unit Webendorfer Perfecting Web Press in one of Alco-Gravure's plants. Now enclosed ink fountains are built into our new giant multicolor Goss presses equipped with 12 units. These new giant presses are adapted for quick cylinder and color changes and are built to attain speeds of 1200-1500 web feet per minute. And, of considerable interest also, is the arrangement of web leads and of register controls which permit supervision from a single focal point."

At the Saturday morning session, devoted to Paper and Printing, R. G. Macdonald, secretary of the Techni-

(*Continued on Page 106*)

Hold YOUR GAINS —WITH CERTIFIEDS

MECHANICAL superintendents are constantly devising ways to improve production standards. In this program, the function of fine stereotyping is to hold the ground gained through better technique in various other processes.

The best stereotyping cannot improve upon the original type and plates, but it can come surprisingly close to the original —or it may fall far short. The difference often lies in the choice of a dry mat.

Your advances in engraving and composition, your benefits from new equipment and materials can only be consolidated and held by such faithful stereo rendering as skillful craftsmen are getting with Certified Mats.

For dependable stereotyping, rely on Certified Mats, made in the U. S. A.

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Control Methods—An Interview

By Mac Sinclair

Good newspaper printing dependent both on organization spirit and the active control of certain production operations

IN MANY instances, it is apparent that the demand for well printed newspapers is far in advance of the capabilities of the printing plant executives who are attempting to produce better papers with existing mechanical equipment. It is only too apparent that existing equipment, processes and methods in many printing plants have not been replaced or improved at a sufficiently rapid rate to satisfy entirely the publisher's wishes.

Modernization of plant equipment, of course, is the desirable procedure with respect to a well printed paper. However, the publisher isn't always in a position to modernize, but with new or old equipment, in the face of the urgent necessity for better production methods, there are many things which can be done to improve newspaper printing.

Through a long series of encounters with aggravating mechanical problems brought about by dry mat manipulating technique, insistence on better halftone reproduction and stepped-up press speeds, both the publisher and the printing plant executive have come to realize that the attainment of a well-printed newspaper lies in the exercise of constant, minute and rigid control over all of the production operations irrespective of the modernity of plant equipment.

The production side of newspaper printing is a complicated process plus dependence upon the human element. This means that production responsibility is out of the publisher's hands. He must delegate that responsibility to someone else.

Human Element and Control Code

WITH these thoughts in mind, the writer approached Earle Martin, production manager of the Cleveland *News*, thinking perhaps an interview would reveal some of the more important elements pertaining to sustained excellence in securing a well printed paper every day.

"Mr. Martin, I want to hear about your formula for the sustained excellent appearance of the *News*. In other words, how do you handle the many mechanical details, all of which must harmonize properly to maintain an unvarying product every day?"

"That's a rather large order, Mr. Editor. First of all, I will say that you must have harmonious cooperation of the human element. The executive personnel of the mechanical departments must function openmindedly and agreeably. Second, of great importance is a control code which has been set up mostly as the result of experience by which every mechanical department head is guided. There must be constant supervision by the department heads to see that all of the things detrimental to good workmanship are avoided by the men working for the respective departmental executives.

Requisites for Mechanical Executive Personnel

"In the case of our organization at the *News*, Mechanical Superintendent William V. Cowgill possesses the knack of picking department executives. He has a good man at the head of every department. The requisites for mechanical executive personnel in the newspaper plant are (1) A good man at the head of each department, (2) Team work between department heads, (3) Ambition, (4) Each department head of an experimental turn of mind and (5) Never be sure and never be satisfied that what you are doing today is the finally best method.

"As an example to demonstrate the investigational attitude of our department heads, I want to describe an incident that happened some time ago. Our pressroom superintendent attempted to reduce show-through and offset. He had heard of the "potato grater" being a valuable accessory when applied to the pipe rollers of presses for overcoming offset on regular editions. After seeing the potato grater in operation on a newspaper press in another city, he decided that for color printing it has its value and that while it eliminated offset, he felt the danger to the hands of pressmen counteracted all of the benefits to be derived through its use.

"The potato grater idea as an offset preventive was abandoned. Mr. Morrison started in to find another solution. As you know, we operate the straight-line type press units. After experimenting with four different ways of feeding the paper into the units, Mr. Morrison finally selected a means for wrapping the web more completely about the blanket cylinder which has eliminated 90 per cent of the offset which we were getting. A critical mental attitude on the part of all our departmental executives and dissatisfaction with what seems best today has produced excellent results."

"Now, Mr. Martin, tell me something about the control methods used in the various departments," suggested the writer.

"In order to hear about some of the real mechanical operations," stated the Production Manager, "I think it would be just as well if you were to talk personally with Mr. Cowgill and his department heads. In my case, I feel that I know when a paper is being well printed. If things don't look right, we get together and thresh it out."

Approach Problems Enthusiastically

In reply to the statement that the writer wanted some information about production methods in effect in the mechanical departments of the Cleveland *News*, Mechanical Superintendent William V. Cowgill said it had always been his endeavor to secure department heads skilled in their lines of work, mentally keen and alert, quick to grasp ideas, and who would act in harmony with the

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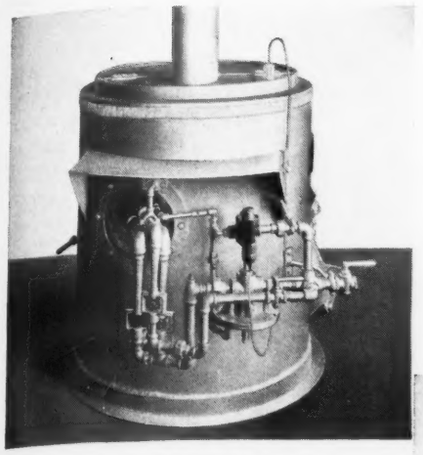
announces

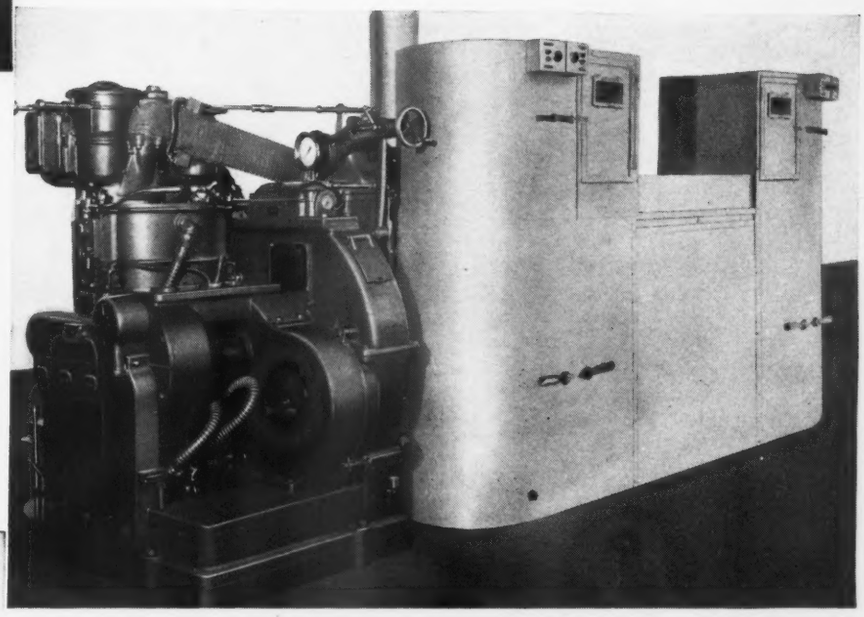
a new line of immersion-type gas-fired soft metal furnaces



REMELTING FURNACES

These furnaces are built for remelting the products of typesetting and casting machines and for other purposes involving hand ladling or light pump casting. They are made in capacities of 1500 pounds up to 4000 pounds.

With this type of furnace no electrical connections whatsoever are required.



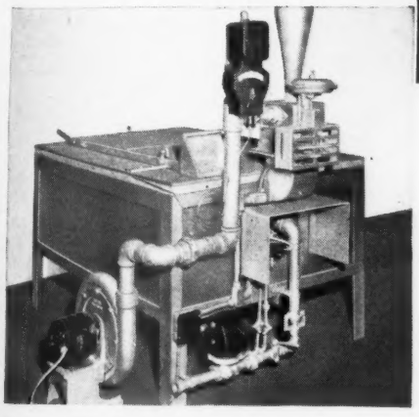
STEREOTYPE FURNACES

These furnaces are of the standard immersion type, of the highest efficiency, with quickly removable heating units and burners of the noiseless combustion type.

They are designed especially to be used with Wood stereotyping machinery.

The pots for these furnaces are of the latest and most approved design and are built of "firebox steel."

The burners are practically indestructible.



ELECTROTYPE FURNACES

These furnaces are made in three sizes, to accommodate the standard sizes of backing-up pans.

WOOD NEWSPAPER MACHINERY CORPORATION

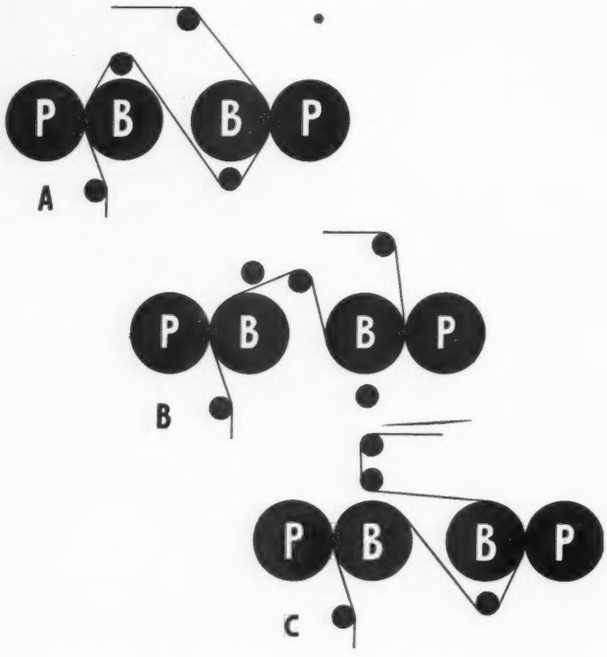
PLAINFIELD, NEW JERSEY — NEW YORK: 501 FIFTH AVENUE

other department executives. The human element does not mean anything unless it is backed up with men of proper understanding and intelligence. No matter what we attempt to do in our work here at the *News*, nor the problems we run into, our men go into it enthusiastically and use their best efforts.

Pay Attention to "Little Things"

Continued Mr. Cowgill: "In printing a good paper we endeavor to start things off properly by paying attention to what some executives might call "little things." Strict attention to these has improved our printing immeasurably. While I don't expect every executive to agree with all of our methods, I will say the things we do have improved our printing greatly. These little things are important production items in our organization. It is, of course, our endeavor at all times to pay strict attention to equipment layout—if we find it isn't just right we change it to suit production efficiency. Constant and meticulous care of line-casting and all other machines, frequent inspection and regular analysis of both line-casting and stereotype metal, are functions that are never allowed to slacken. Among the small things having an important effect in the final appearance of the paper is a uniform page size. We lock the forms exactly the same all the way through so that one page will not be loose and another tight. This yields uniform plates no matter how many pages are run. The mats molded from these pages all fit into the casting box and are trimmed the same. The plates then go on the press to mak a uniform paper. One of the "big little" items is that we clean and oil the form trucks and chases regularly.

"Our stereotype superintendent molds only for bowl depth. It isn't necessary to attempt 'stone-crushing' pressure to get a mold which will bring out all the detail in the plate. The idea here is to avoid distortion in the plate. Distortion certainly does not help good newspaper printing. Another thing watched in our plant is to see that mats are dried with uniform heat over the entire area of the mat.



These diagrams show various methods of leading the paper web through straight-line newspaper printing press units. William Morrison, press-room superintendent of the Cleveland *News* has reduced showthrough and offset greatly by experimenting with web wrap about the blanket cylinders. At *A* is shown the original lead through the unit. At *B*, greater cylinder wrap was secured by moving idler adjustment *1*. At *C* is shown still another method.

Department Heads Scan Each Edition

"A most important means for controlling the appearance of the paper to see that everything is printing properly is that each mechanical department head scans copies of each edition as soon as received from the press-room. The eagle eyes of five men are quick to catch imperfections which may need immediate correction. If it is something which is not urgent, it is let go until the next edition. On account of the peculiarities of newspaper mechanics, it should be apparent to you that the printing of a consistently uniform paper requires constant and critical watchfulness by all of the department heads involved in the production of the paper."

Mr. Cowgill stated that a discussion with each of the mechanical department heads would bring out in detail the more important control operations in the production departments, and that while many or all newspapers already employ one or perhaps all of the methods in use at the News, yet some operation could be found in this plant which would be of help to others.

Engraving Superintendent Otto Lange, fortunately, could spare a few moments at the time of the writer's visit.

Photo Copy Preparation

"Since most any kind of news photographic copy (good, bad and indifferent) finds its way into a newspaper plant, what procedure is followed to provide uniformly excellent halftone printing?" was the first question put to the photoengraving head.

Said Mr. Lange: "To secure good newspaper reproduction, our art department retouches about 95% of the photographs in some form or other. This is done before copy is sent to the photoengraving department. Everyone knows that in all cases, pictures intended for newspaper use can't all be good, but we do feel that we are obtaining maximum results considering the run of copy.

"The prime object in the production work of this department is to make halftone plates which will mat right as well as print well. We endeavor to bring out all the detail in the pictures as well as to maintain color or contrast. In other words, we attempt at all times to secure contrast in the blacks and whites. Where the plate is not as good as we think it ought to be, plates are re-etched if we have the time. Where we have a bad piece of art and the resulting cut is deficient, the cut is made over immediately. Our engravers are trained to secure the best results and each man is encouraged to take the initiative.

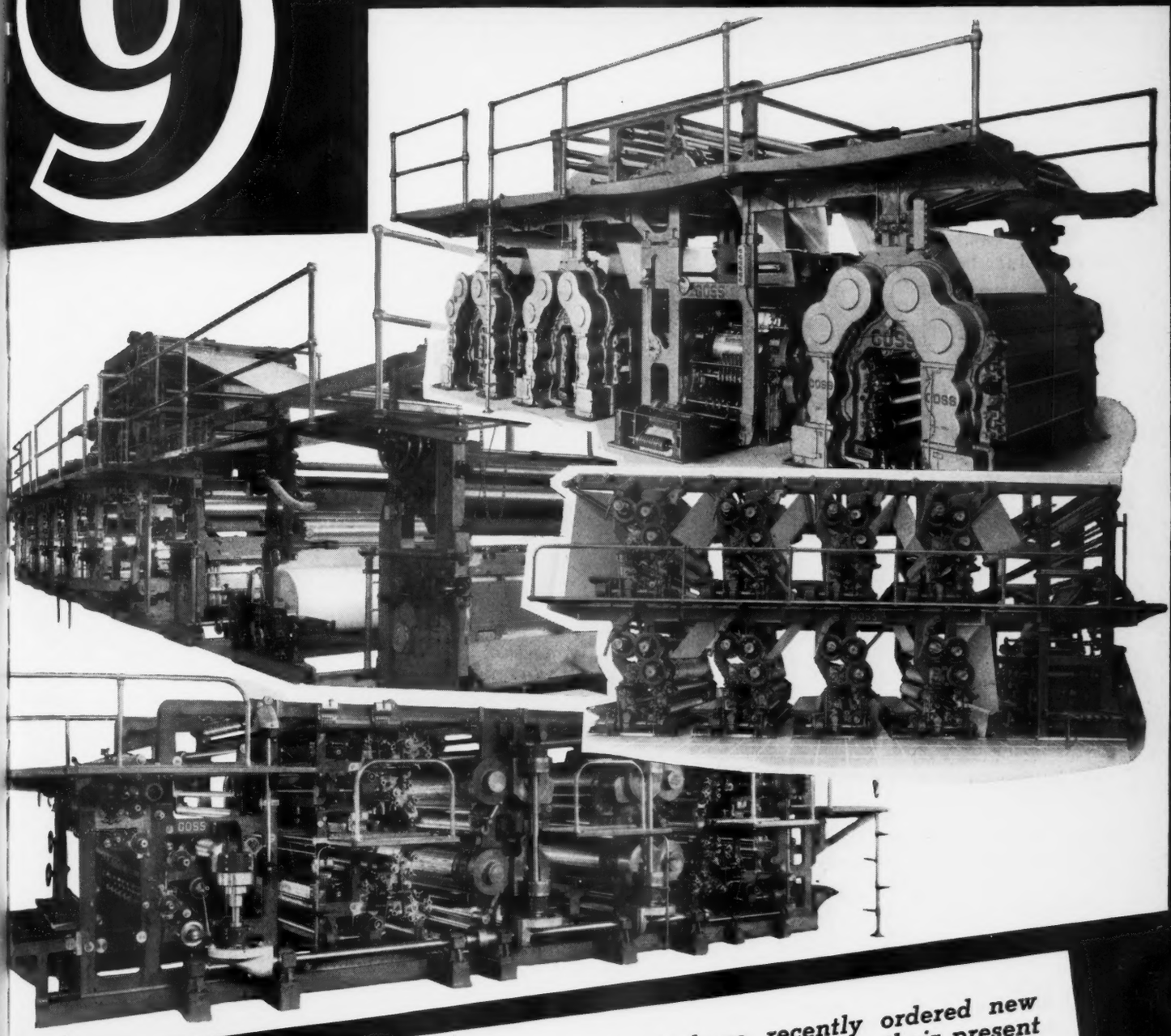
Strip Film in Use at *News*

"We are not using wet plates in this department. We feel that in newspaper engraving a wet plate negative always has an inherent weakness between the dots which is totally absent in dry plates. While we have not found the strip film to be strictly uniform at all times, yet it gives better results since there is more uniformity.

"With wet plates, one cannot tell always what is going to happen because the bath varies with the different individual's mixing. In adopting film, we eliminated eleven chemicals formerly used, such as collodion, cyanide and acetic acid, besides several operations necessary to preparation of wet plates. Throughout the entire day's production, the strip film is much faster. Using a 75-line Levy screen, we etch for 0.0045 in. in the highlights. This depth satisfies our stereotype superintendent because it does not affect the facing of the mat and permits excellent printing on the press."

"Some time ago Mr. Martin suggested that before

9 MORE FOR GOSS!



These nine plants have recently ordered new Goss presses to augment or replace their present equipment:

BUFFALO NEWS, Buffalo, N. Y. — 8 Goss High Speed Anti-Friction Units and 2 pairs of Folders

PEORIA STAR, Peoria, Ill. — 6 Goss High Speed Anti-Friction Units and 1 pair of Folders

VANCOUVER SUN, Vancouver, B. C., Canada — 5 Goss High Speed Anti-Friction Units and 1 pair of Folders

CHARLESTON EVENING POST, Charleston, S. C. — 2 Goss High Speed Anti-Friction Units and 1 pair of Folders

ALCO GRAVURE, Chicago, and **ALCO GRAVURE**, New York—34 Goss Speedry Gravure Units

KALAMAZOO VEGETABLE PARCHMENT CO., Kalamazoo, Mich. — 1 Goss Speedry Gravure Unit

CHICAGO TRIBUNE, Chicago, Ill. — 16-unit Goss Multi-Color Press

THE CUNEO PRESS, INC., Chicago, Ill. — 64-page Goss High Speed Pulp Magazine Press

METHODIST BOOK CONCERN, Cincinnati, Ohio — 32-page Goss Magazine Press

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sending news and feature halftones to the composing room we finish the edges of all cuts with the guillotine so that there is a smooth edge which avoids the tendency of a cut with line to pick up ink. A black line weakens the border whereas a white line tends to lift it."

Walking on out to the Composing Room, the writer found Superintendent C. L. Buttermore who had just sent the last form of an edition into the stereotype room.

Controlling Form Elements

"I have come in to find out what your department's contribution might be in the making of a newspaper. In other words, what do you do in this department to control the height of the form elements to permit good molding in the stereotype room, particularly in view of the molding pressure upon the light and heavy type, rule and cuts in the form?"

Began Mr. Buttermore: "It is mandatory in this department that standing heads do not run more than once. New ones are supplied every day. Radio programs are reset every day. Liners which have been run more than two days are all reset. In fact, we have a fresh start on all type in the form every Monday morning. We take this resetting as a matter of course. In order to provide a level form for the stereotype room it is essential that all type matter which has sunk below type-high be renewed. This resetting contributes greatly to the even appearance of the type matter in the paper.

In answer to the question: "What height are your chases, type matter, column and liner rules and cuts?" Mr. Buttermore said: "Our chases are 0.918 in. high; the column and liner rules are 0.916 in. high; all of the cuts, from 3 ems by 3 ems up, are mounted on solid flat-cast base in the stereotype department. The cuts are mounted type-high but are underlaid in the stereotype room 0.006 in. above type high."

Mounting Editorial Halftones

"I notice the news, feature and society halftones are mounted in such a way that there is always white space between the cut and column rule. What is the reason and how do you keep the cuts in position on the base?" the writer interrogated.

"It is Mr. Martin's idea that all halftones of this nature be made certain standard sizes to allow for the white space. For instance, a single column halftone would be approximately 11 ems wide for the 12-em column. In order to keep the cut in position, it is mounted on a stereotype base full width of the cut which is then returned to the composing room. Then we put a 3-point "fence" above and below the cut. The fence is higher than the base but not high enough to print in the paper. In fact, the 3-point fencing is 0.043 in. lower than type high.

"The white space between the cut and column rule makes certain that the column rule adjacent to the cut will print.

"Mr. Martin introduced this idea some time ago because the idea of the white border is to add contrast to the picture. The original idea is that the white border would intensify the halftone."

Composing Machine Checking System

"With respect to our composing machines, our Chief Machinist, John Peecook, has a system for checking the product from all the machines. The slugs are checked periodically for height and solidity. He has also installed a mold-cooling system which helps greatly in insuring that slugs will be solid.

"These are the high points about controlling the things which we have found to need the most attention."

At this moment, Blanchard Wilson, Stereotype Superintendent, approached with the information that one of the heads in the last form looked as though the type had been damaged.

Mr. Buttermore's reply was: "I'll attend to that right away. Excuse me while I get one of the fellows busy."

"Now, Mr. Editor, what are you doing here?" asked the well-known Mr. Wilson.

"I have been talking to some of the boys about your methods of control in the various departments and was about to pay a visit to your department."

Being invited to come into his office, the writer asked Mr. Wilson what he considered to be of vital importance in the furnishing of good stereotype plates for the pressroom.

Catching Defective Materials

"Well," answered the Skipper, "it's strictly a co-operative proposition. You heard me tell Mr. Buttermore just now that one of the heads was defective. If one of my men had not seen that while molding the page, a defective plate would have been sent to the pressroom and it would have been necessary for Pressroom Superintendent Morrison to send word for a new plate. As it stands, the defect is going to be remedied before the plate is cast. Now don't get the impression that this sort of thing happens frequently. As a matter of fact, we have little to complain about with respect to the forms sent to us from the composing room, but we do watch at all times for imperfections which would cause defects in plates.

Dependence of Stereotyper on Other Departments

"Unless level forms with solid type and bases in them are delivered to the stereotype department, you can't make a good plate. If you don't have good photo-engravings, there is little the stereotyper can do to make them cast properly. Evenly justified forms are of great importance in this process. If everything isn't just right, the stereotyper can't furnish a good plate, in which case the pressman is out of luck.

"Our bases must be of uniform height. An important factor is the molding cushion which must be properly balanced. I guess there must be nearly a hundred different molding combinations. We have worked out the combination which works best in this plant.

"Mats must not be overpacked so as to leave light places around the cuts, nor must they be underpacked, because in this case the presses will pick up a smudge in the printing.

"The rate of cooling of stereotype plates is an important matter. The plate must be cooled first from the face to the back of the plate."

"How do you obtain this, Skipper?"

"We obtain the cooling rate differently at various times of the year here in the Cleveland area. In the winter no temperature control is necessary since we can easily cut down the amount of water running to the cylinder. At other seasons we regulate the water supply in the right volume.

"Uniformity of the plates is the greatest consideration since we furnish the pressroom superintendent the thickness of plate he calls for. The forms, of course, are watched carefully for size in the composing room. We do the rest in the stereotype department."

"I guess I'll go down and see Bill Morrison in the Pressroom. Goodbye, Skipper."

"So long, Editor. Come again."

Many Things of Importance in Pressroom

William Morrison, pressroom superintendent, asserted that no one thing is "most important" in newspaper presswork. You have to figure all the important things as a, b, c, d, e, f, etc.

When asked as to his preference for newsprint color he said: "I prefer a white sheet, and when I say 'white'

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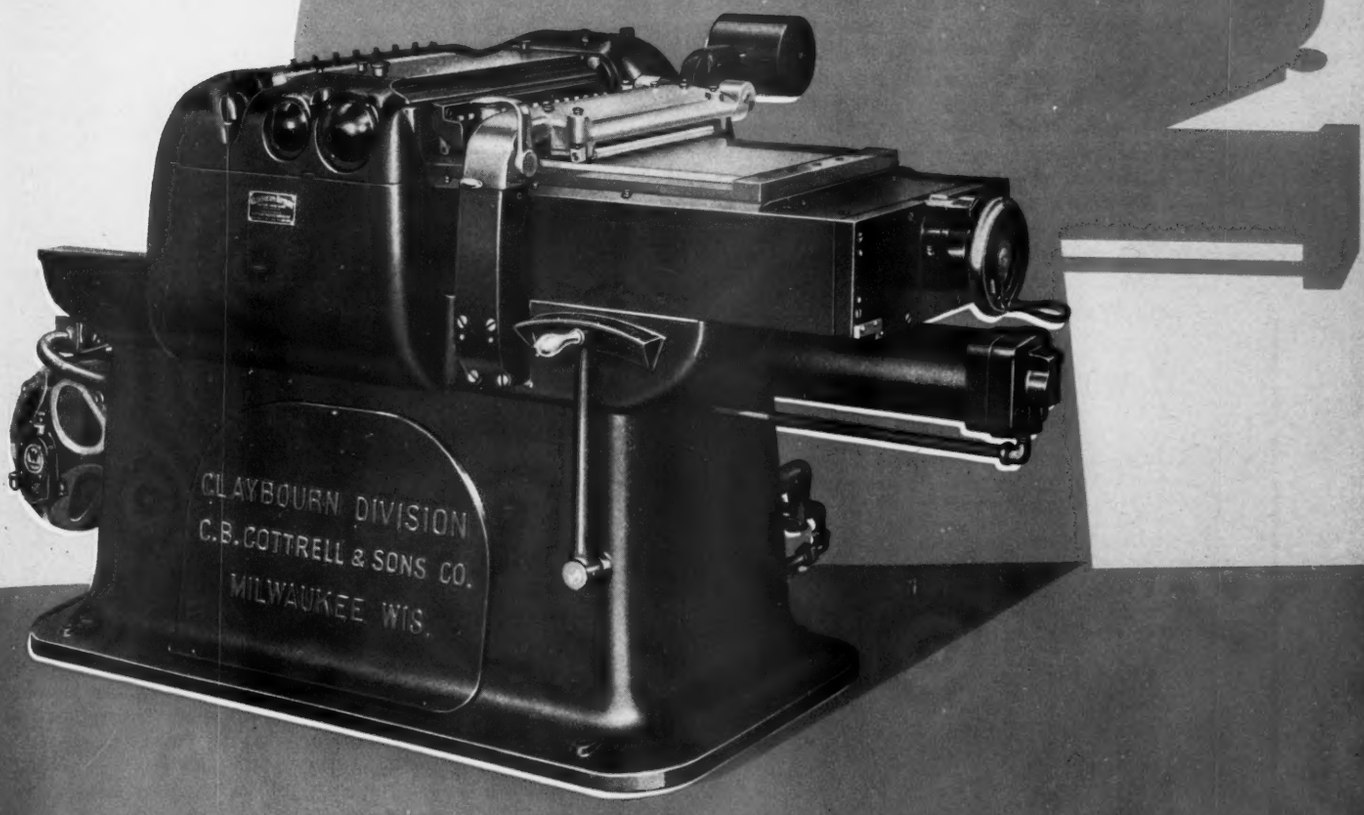
COMBINATION ROUGHING and SHAVING MACHINE



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To help meet the present-day demand for better press-work in both magazine and newspaper printing, Cottrell offers the CLAYBOURN Combination Roughing and Shaving Machine. Here is a precision tool — built to meet exacting requirements—which not only does better work but at the same time reduces costs by combining two operations in one. Used for shaving electrotypes, stereotypes, base material, etc., it insures uniform plate thickness—accurate within plus or minus one-thousandth of an inch—and eliminates a great part of the hand finishing necessary when plates are shaved with ordinary equipment. It is particularly advantageous in newspaper and other printing plants for producing accurate metal base upon which to mount cuts for molding. A micrometer adjustment enables the operator to shave plates to any desired thickness—a cut as deep as one-eighth inch can be made in one operation—and the bed is quickly adjustable so that shell stereos, too, can be shaved with close accuracy. A folder describing this machine will be furnished on request.

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COTTRELL

I mean white—just as white as you can get it—a little to the blue if you must go either way. Of course, the pressroom is dependent upon the workmanship of all the other departments in the printing of a paper.

"In the pressroom, we must have blankets of the proper thickness. Plates must be of proper thickness to synchronize with the speed of the blankets. Rollers must be concentric and as nearly constant in diameter from end to end as it is possible to maintain them.

"With respect to the setting of rollers, about 80% of the rollers in this pressroom are set exactly opposite to the formula used and recommended by some others. The reason we don't set rollers uniformly from 3 to 5 agate lines against the plate is that all of our units don't seem to work the same. We set them by feel with a strip of paper between the plate and roller. The amount of drag when pulling the paper strip determines the roller setting.

"Occasionally we have trouble with ink misting. On a particular unit where I run color most of the time we get a cloud of heavy mist all the time the unit is in operation. We have set the vibrator rollers as nearly alike as possible but we srill get the mist. What is the answer?"

"At an A.N.P.A. Mechanical Conference some time ago, Dr. Diefenbach advanced the theory that ink misting is due to the key cause of static electricity."

"I am not a technical expert. It is difficult for me to understand why we can start operating another unit which has not been run for a month and are not troubled with the mist. Some pressmen have used tinsel for eliminating ink misting. In the past, with deck-type presses, I have taken a piece of muslin saturated with water and hung it against a roll of paper and the static would drop right down. Moisture seems to kill static quickly.

Setting Impression

"Here at the *News* I like to take care of impression as much as possible, for the reason that each man has a different idea about it. If we were running a lot of machinery we would have to depend on more than one person. Inasmuch as we are not operating too many units for one man to handle I set the impression myself and check up regularly so that when we start a run and a sheet doesn't look just right I know what impression is on the unit and can correct it quickly. If one were to leave it to several men indiscriminately, you couldn't keep track of the adjustments and in an emergency there might be a considerable delay in production.

"Owing to the fact that as a rule we print more cuts in the first section of the paper which is printed on the off side of the press we carry a good impression on that side and in turn if we don't check cylinders regularly and make adjustments we will find them out of line. We are running a paper which is hard to print on the wire side. When the wire side of the paper comes on the first impression and on account of having to carry a fairly heavy impression, it feeds too much paper to the second impression cylinder, so we had to do something to offset that. This is the reason for using a slightly heavier blanket on the second impression cylinder which takes up the slack between the first and second impressions and helps to eliminate offset.

"As a rule, we print the first and the picture pages on the smooth side second impression to dress up the paper.

Reducing Offset and Showthrough

"As you have just told me, Mr. Martin has described what we have tried to do to prevent offset and showthrough with our straight-line units. Here's a sketch to show how we changed the leads to the cylinders to obtain more wrap of the paper around the cylinders. This has helped a lot in the appearance of the paper.

"I guess it's just a constant battle to produce a good newspaper—and believe me, all of us have lots of fun trying to print. Tomorrow some one of us might discover something new."

"So long, Bill, see all of you in Chicago at the Mechanical Conference."

V. O. Williams Is Now Mechanical Superintendent

The many friends of Verne Williams, who is well-known to newspaper mechanical executives throughout the Central West, will be pleased to learn of his promotion to the position of mechanical superintendent of the Illinois *State Register*. Announcement of Mr. Williams' promotion was made early in May.

Mr. Williams learned to operate a Linotype in the plant of the *Semi-Weekly Gazette*, Windsor, Ill. After becoming proficient, he worked as machinist-operator

in Decatur, East St. Louis and St. Louis. He then journeyed to Mt. Vernon where he became foreman of the now defunct *Herald* and a little later he was employed in the plant of Kable Bros. at Mt. Morris.

In July, 1930, he became associated with the Illinois *State Register* as machinist. For the past several years, because of his natural ability, he was selected to assist the late A. R. Wilcox (for 40 years mechanical superintendent) with mechanical work in the various departments. Since the passing of Mr. Wilcox a year ago, Mr. Williams has looked after the mechanical equipment.

Mr. Williams is 36 years of age, is married and has two sons (4 and 6 respectively) and a daughter 13 years of age. His only hobby, outside of his work (says he) is fishing for black bass. He has been actively associated with the Illinois Composing Room Executives' Association.

HAS NEW TERRITORY

Arthur H. Cooke, who has been with and has represented the Mergenthaler Linotype Company for many years in various states, is now covering Vermont, western New Hampshire, and Massachusetts east to Worcester. Mr. Cooke, who is well known, particularly in New England, was born in Boston of a family of three generations of printers. He was educated in Boston grade and high schools, and took special courses at Harvard University in accounting and at Boston University in business law.

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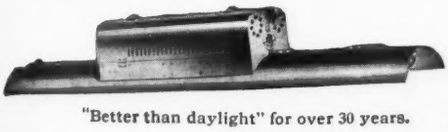
Job Printing Plants

This job-press printing department uses Cooper Hewitt mercury in combination with Mazda incandescent lamps to achieve uniform production and color.

Uneven "color" due to quick changes in weather conditions no longer is a problem. The combination of Cooper Hewitt mercury with Mazda incandescent lamps provides a constant contrast level of illumination that permits uniform production. Noon or midnight makes no difference to printers who work under this new combination unit.

Where the banishing of glare is the most important factor, the long light source of Cooper Hewitt mercury illumination effectively provides a means of seeing every detail even on the brightest of metal. Its cool, restful light source is glareless and the disconcerting reflections from type that slow up work are entirely eliminated.

Send for complete information. Address the General Electric Vapor Lamp Company, 899 Adams Street, Hoboken, New Jersey.



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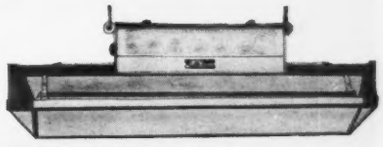


For use where color is of importance.

GENERAL ELECTRIC VAPOR LAMP COMPANY

775C

Dirt and Dust

By STAFF WRITER

Both are natural enemies of good printing—Temperature, humidity (or lack of it) and irregular paper lots all cause pressroom troubles.

DIRT and dust settle in the ink while the press is running and cause specks in the print. In some cases the specks are bits of dried ink carelessly allowed to reach the form from fountain or ink can. In late spring while winter rollers are still on the press, little particles of composition may chip off and appear in the print as specks.

Dust and dirt always filter into a building, the best construction leaving it not much better than a sieve to keep out large particles only. Dust and dirt get into the container in which paper is shipped from the mill. When the case or box is opened, the top boards should be taken off first and the wraps inside removed so that the dirt on top of the wraps does not fall down into the printing paper. As the paper is removed from the box to be taken to the press or the paper cutting machine, an eye should be kept on any visible dirt. The top sheet of the pile often is dirty and should be discarded.

A dull knife will cause more paper dust on the cutter than a sharp one. The table of the cutter should be cleaned frequently, at least often enough to keep it free from dirt and dust. Jogging paper on the cutter table both before and after cutting or trimming always leaves some dirt and if care is used much of this can be kept out of the paper going to the press. The paper or cardboard should be inspected on all four sides as it is placed on a truck to be sent to the press and if necessary the edges should be cleaned. A vacuum cleaner attachment serves very well.

Miniature reproduction of cover of *Du Pont Magazine* for May. The cover was treated by roller coating a clear paper lacquer into which had been introduced a soluble dye to impart a rose tint after printing from standard photoengraving. See Article, page 103.

The feedboard of the press and all the cross rods should be kept free of dirt and dust which accumulates rapidly, the surface of some papers throwing off more dust than others.

One function of the brush on the press is to wipe dirt and dust from the sheet going to the impression. It works well if properly set and as a result the brush fills rapidly with this dirt. If not cleaned, the dirt and dust drop down on form and ink plate and the result is spotty prints and filling of type and halftone plates.

Probably the best way is to clean the brush by hand with an ordinary scrubbing brush, tapping the back of the press brush to knock out all the loose particles of dirt.

Considerable changes in relative humidity cause paper to curl which endangers accurate feeding and slows down production as well as causing loss of register. Changes in the dimensions of the sheet are also caused by these changes in relative humidity—the larger the sheet, the greater the change in dimensions.

Some of the larger printing plants have installed systems of atmospheric control but the executives of many firms feel these systems are too costly and either go no further than a humidifier installation or else get along without air-conditioning apparatus.

A system based on common sense which is in general use consists of ordering paper in advance and allowing it to season where pressroom relative humidity prevails if there is no room for seasoning in the pressroom. The sheet heater is used on all runs of register jobs in two or more colors but the heat is kept low during the first run of the sheet through the press and turned up for the following colors. The sheets are run into moisture-proof wraps and covered up each time through the press except on the final run. While there is some loss in sheets out of register, it is found to be not as great as when these precautions are omitted.

The papers which come from the mills in moisture-proof wraps are less likely to cause trouble from curling if the printer will protect the paper from considerable changes of relative humidity. In passing it may be noted that some photoengravers are sending out plates mounted on wood in moisture-proof wrappers.

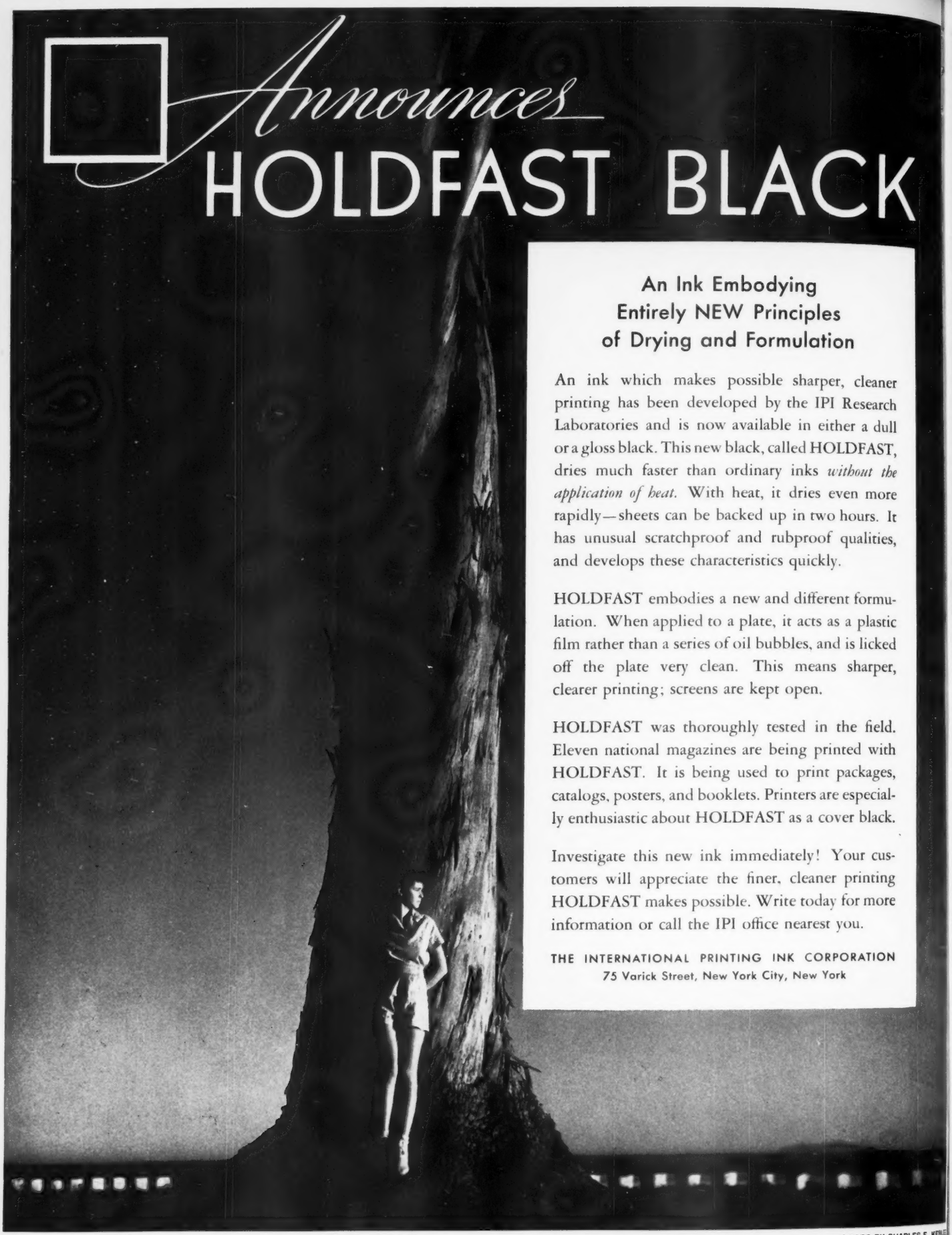
Some printers have installed paper seasoning apparatus which rapidly brings the sheets to pressroom relative humidity and saves the cost of large storage space.

In many plants no precautions against atmospheric changes are taken. The result is constant loss—much greater than the cost of the preventives.

Incredible as it may seem, after all these years of education, printers still bring in ice-cold paper in winter and at once try to put it through the press. Production is slowed down by static electricity. To print without picking, the ink must be doped until it looks little like itself when it might have been run straight and full color with a reasonable temperature in the paper. Other printers turn down the heat or turn it out entirely during the night. As a result, nothing can be printed as it

(*Continued on Page 111*)

What is so rare as the color mood of June—rose reds, azure skies, brides in shimmering white.
The colorgram on the following page may suggest new ideas for your color printing.
ipi
June
LEONARD



An Ink Embodying Entirely NEW Principles of Drying and Formulation

An ink which makes possible sharper, cleaner printing has been developed by the IPI Research Laboratories and is now available in either a dull or a gloss black. This new black, called HOLDFAST, dries much faster than ordinary inks *without the application of heat.* With heat, it dries even more rapidly—sheets can be backed up in two hours. It has unusual scratchproof and rubproof qualities, and develops these characteristics quickly.

HOLDFAST embodies a new and different formulation. When applied to a plate, it acts as a plastic film rather than a series of oil bubbles, and is licked off the plate very clean. This means sharper, clearer printing; screens are kept open.

HOLDFAST was thoroughly tested in the field. Eleven national magazines are being printed with HOLDFAST. It is being used to print packages, catalogs, posters, and booklets. Printers are especially enthusiastic about HOLDFAST as a cover black.

Investigate this new ink immediately! Your customers will appreciate the finer, cleaner printing HOLDFAST makes possible. Write today for more information or call the IPI office nearest you.

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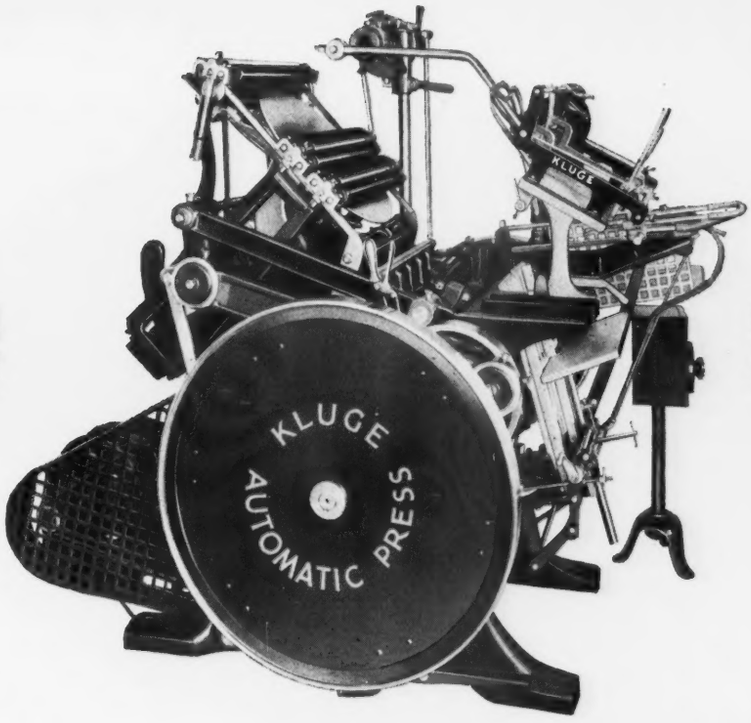
PHOTO BY CHARLES E. KERL

THE IPI "COLORGRAM" FOR JUNE—The design on the other side is one of a series by Robert Leonard, planned to express the color mood of the month and to show the behavior of colors and inks under certain conditions. The color scheme for June is a series of neighboring colors from green-blues into the red-blues, with a contrasting note of cool red. The yellow light reflection on the bride's costume relieves the monotony of pure white. To maintain perfect hue steppings, three blues, a yellow and red were used to print this insert. Detailed information on the making of the plates and the inks used will be sent on request. Address I.P.I. 75 Varick Street, New York City, New York.

N. M. C.



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What Is It?—VII

By ADAM HENRY REISER

Camera is destined to play chief role in offset-lithography of tomorrow because of faithful reproduction, reduced costs and expediency.

ARTICLE VI described a few of the methods of preparing the copy that finds it way to the camera. This matter of copy preparation is really important, both from the standpoint of the finished product as well as from the angle of production costs, but more especially so, because of the tremendous importance of the principles of photography in the Graphic Arts. You see, the negative or positive plays an important role in the means of attaining the lithographic image in the lithography of today. Surely, the camera seems destined to play the chief role in the lithography of tomorrow.

Before we develop the few remaining methods of obtaining food for the camera in the establishment of the image, let us ask the reason for the introduction of the camera with its costly equipment and chemicals. Why not draw all of this work directly to the plate or stone and have done with it all? Why was camera work ever adopted? Because, besides the more faithful reproduction that may be achieved by camera, there is also possible the production of many images in lithography by means of the single negative or positive turned out by the camera. Reduced costs and expediency sums up the matter.

Halftone and Line Copy

Of the few remaining to-be-explained copy methods there are the following: Pencil sketches on sketch board may have to be reproduced in halftone. This is often necessary so that the fine gradations may be recorded. Where color washes are made on drawing board, color separations are necessary by the camera. Appropriate filters are used for each shot, or color, so that the light rays of that part of the spectrum that are not be to recorded may then be shut out, thus having no action on the sensitive emulsion of the photographic material.

Label houses very often resort to the practice of making enlarged photographic prints on paper of each of the colors of a label. These are checked for size and then worked upon. Letters are sharpened and the print is otherwise treated so that the color represented by each individual photo-print will register properly with the other colors of the job. Each print contains work that represents only one color. This is then shot by the photographer, the ensuing film being again tested for size and fit. When correct it finds its way to the platemaker.

It may be necessary to go to several sources to make up a design. Photographs may be sent in. These may need retouching to bring out the detail and get the proper depths. As a matter of actual fact, lithography would benefit greatly by the advice given by an expert cameraman. His stand dictates the touching-up of most of the photographs sent in to lithographic establishments. Much of the objectionable flatness in lithography would then be eliminated. These photographs will have to be transmitted to a film placed behind a screen so that printing dots may be secured which will translate the continuous tone of the photograph. Line shots would fail to yield the detail. Special gelatine printing processes would permit the use of continuous tone photography; but since this is a specialized process and not commercially practicable in the full scope of lithography, we shall probably cover it at some later date.

Halftone pictures and line shots may then be combined so as to produce the subject desired by the customer. The sketch artist may simplify matters by combining as much of this material as possible, thus aiding the photographer as well as the stripper. Or, when the print of the finished stripped job is made to the press-plate, the artist may work out the high-lights, model some of the parts by reducing the dots of the albumen image or otherwise improve it. This may be done with a stiff brush or cotton tuft, or perhaps, with a narrow piece of felt held in a holder much like a brush. When the print is dry he may also add solids, fix breaks or add connections.

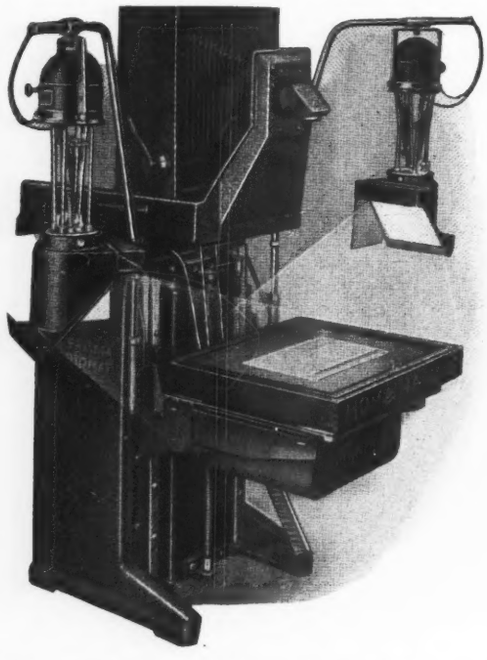
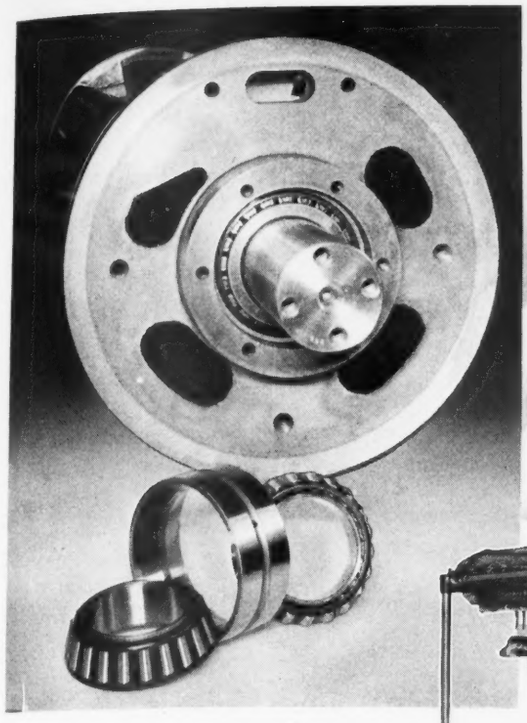


Fig. 17—Camera and equipment for reproducing type matter by direct photography. Illustration shows the horizontal bed upon which the form may be laid to facilitate photography.

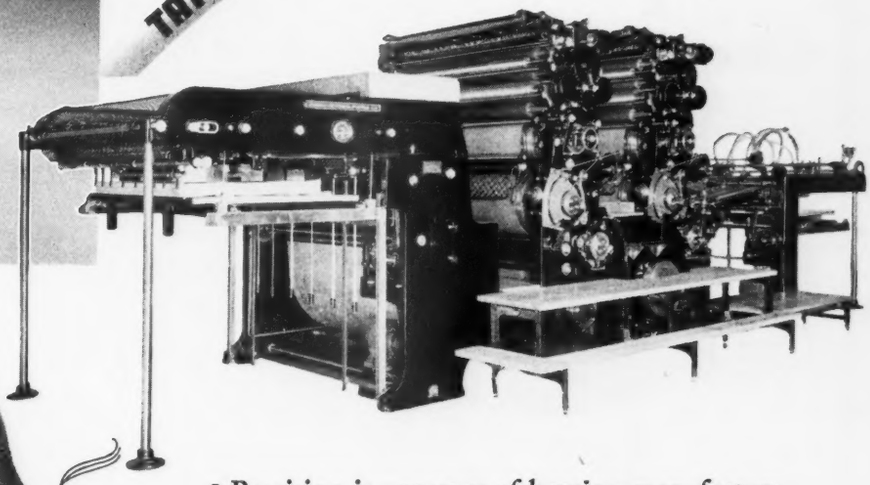
Typo Conversion to Offset

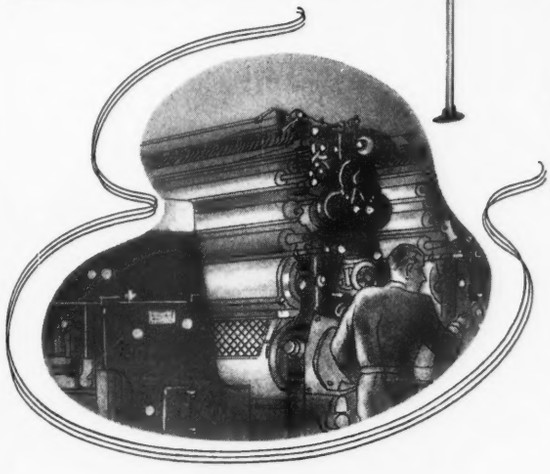
It is often desired to convert typographical composition, cuts and the like, to lithographc methods of production. This is ordinarily carried out from a black proof of the matter. After this is photographed, the negative or positive is used for press-plate production. Some operators, however, use the composition or cut for direct photography. Interesting methods have been devised to carry this through more efficiently. The Texoprint Process is said to make use of a horizontal resting place for the cut. This platform may be raised or lowered so that same size, reductions or enlargements may be made. The camera, similar to the one shown in Figure 17, also lies in a horizontal plane and is equipped with a prism. One of two methods of material prepara-

(*Continued on Page 105*)



WHY AND HOW HARRIS USES PRECISION TAPERED PRELOADED ROLLER BEARINGS





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• Precision is accuracy of bearing manufacture. Tapered means that this accuracy can be maintained. Pre-loaded means elimination of all play, and a roller bearing means the elimination of friction.

The plate cylinder bearings are located in the cylinder body and the steel cylinder shaft is non-rotating and is keyed to the side frames. This construction eliminates all looseness or play in plate cylinder mountings.

The mounting of the blanket cylinder is the same as the plate cylinder except that the non-rotating shaft is keyed to the pressure eccentrics eliminating all bearing play.

The impression and transfer cylinder bearings are mounted in the side frame to facilitate press design.

The press shown is the LSK 42" x 58"—2 colors

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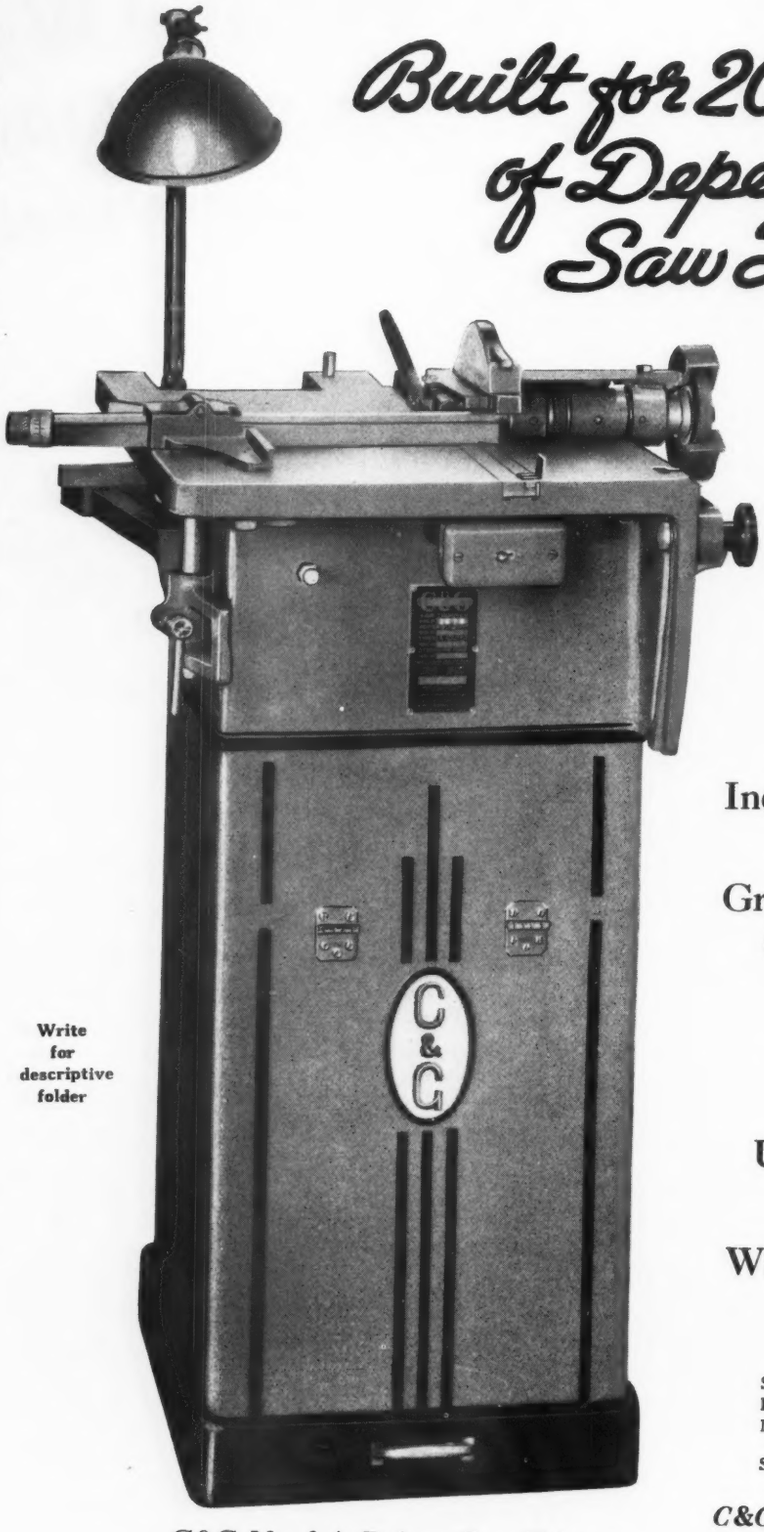

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Books Received
Short Reviews

"Human Touch"

SEVERAL thousand copies of a booklet "Human Touch" have been distributed by the Bauer Type Foundry. The book was hand-set in Weiss Bold from foundry type and was printed by The Spiral Press, New York. Several wood engravings by Karl Mahr, illustrative of punch-cutting and type-casting methods, adorn the pages.

The text matter in the booklet is devoted to a discussion of mechanical typesetting, hand typesetting and a not-too-deep account of foundry type matrix-production methods. Says the author: "To argue seriously against the machines today is futile. Machines have become large and useful factors in our daily lives . . . there are abuses of the machine . . . but the abuses are occasioned by men."

Not a great deal has been written about the place hand composition occupies in the industry. In the booklet the writer points out that hand composition has its advantages and therefore has a justified place in today's printing. The human element has been emphasized without doubting the practicability of the machine.

Science of Photographic Processes and Materials

INFORMATION, important to lithographers, has been gathered between the covers of a pamphlet bearing the above heading. The Lithographic Technical Foundation has just published this work. It is in reality a stenographic report of a series of ten lectures given by Kenneth W. Martin during the year of 1935 to a group registered by the Technical Foundation.

Someone has named the Albumin Process booklet issued by the Technical Foundation, the bible of the lithographer. Surely, the later science work referred to here, should occupy a place beside that Albumin Bulletin No. 6. For one thing, it is more inclusive. Starting with its first unit on the camera, successive steps bring the reader to the ninth unit on inks and presswork. The tenth unit of the book is devoted to questions and answers of the closing night of the lecture series.

Formulae, equations of the reactions, diagramatic presentation of lenses and the camera, steps in the method of making lithographic images, the pH Tester,—all are included in the booklet. It is suggested reading for every craftsman employed in the lithographic industry.

Of course, a small booklet of 72 pages can hardly be expected to cover the vast field of the art of lithography. As a result, the material will be found to be a bit sketchy. But for the short amount of space and time alloted, Mr. Martin has done a very creditable piece of work.

—A. H. R.

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Slug Trimming Knives—II

By MAC SINCLAIR

Difficulty in adjusting side trimming knives on line-casting machines sometimes due to remote causes—Knife grinding is a precision operation.

USUALLY, when applying a new set of knives, the left-hand knife adjusting screws in the knife block (as adjusted for the left knife which has been removed) will serve as the initial locating point for the new left-hand knife. Apply the new left-hand knife, turn up the anchor screws without tightening them and apply the knife bow spring with the ends bearing against the knife and the central or rounded part of the spring bearing against the right-hand mold disk locking stud block. After the right-hand knife has been mounted in the knife block, the knife block itself may be applied. When the block is applied the adjusting screws for the left-hand knife will push the knife to the left. After the knife block fastening screws have been turned up, the left-hand knife anchor screws may be tightened. If the slug in the mold is 8 pt. body, it is a good idea to open the knife block lever on the Linotype or the screw dial on the Intertype to 10 pt. until after the first slug has been cast and ejected, so as to determine the initial relationship of the new knives to the slug. The reason for this is that perhaps the new right-hand knife body may be wider than the one which has been removed and in opening the lever to a wider setting the machine will not stall on the new knife.

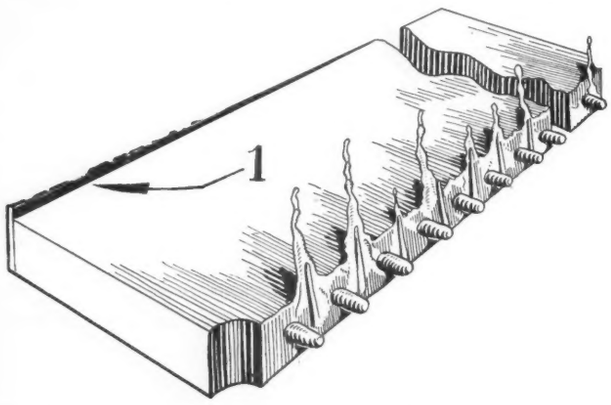


Fig. 5.—Perspective diagram of a slug which has been removed from the mold immedlately after the cast but before being trimmed. At *1* is shown the effect caused by the first elevator and mold being out of parallel alignment. A part of the matrix line has sagged down so that the top part of the letter characters overhang the constant side of the mold cell. The same effect will be obtained if the keeper plate on a Linotype mold is not maintained in proper position. For the purposes of the discussion in this article, the overhanging cast is objectionable because it will prevent accurate adjustment of the left-hand trimming knife and may also affect the smooth forward motion of the slug between the knives, which in turn will affect parallelism of the trim.

From this point on, adjustment of both knives is a process of "inching up" both knives a little at a time while measuring the result of each adjustment with the micrometer to see what progress is being made. Tighten the knife anchor screws after each adjustment.

The first consideration, of course, is to so adjust the left-hand knife that it will remove the draw at the top of the slug and at the same time set it as close to the slug body as possible so that it will not scrape off any metal but will act as a support for the trimming action of the right-hand knife. The knife will be set properly when the slug measures alike on a rib, both on and just below the draw. The next operation is to finish adjusting the right-hand knife for point size. The usual procedure is to adjust the knives for the mold which is in use most frequently and afterwards check the measurements of the slugs cast from the other molds in the mold disk. After a slug has been cast, trimmed and measured from each mold it may be found that some irregularity exists in one of the slugs. It will now be necessary to study the condition of the machine parts associated with the casting and trimming of all the slugs. Perhaps a cause for the irregularity in trim will be found in the accompanying error list.

Stoning the Left-Hand Knife

It may be noticed that a set of new knives cannot be adjusted for parallelism throughout the length of the slug, *i.e.*, the two outer end portions of the slug may measure alike but the center part of the slug is anywhere from 0.0005 in. to 0.002 in. thinner. It is possible that in pulling up the left-hand knife anchor screws the knife will be caused to bow slightly even if the grinding of the knives has been done by a competent firm because of an irregularity in the supposedly plane surface of the knife seat in the vise frame of the machine. As a rule, the right-hand knife on the Linotype cannot be bowed by turning up the anchor screws. On the Intertype, fastening screws are not employed for the right-hand knife. The left-hand knife, however, on both machines is provided with two square-head anchor screws which must be pulled up with a T-handle socket wrench. The observation should be made right here that knife anchor screws must be pulled up tight after final adjustments have been made.

Usually, when a slug trims out of parallelism with the ends after the application of a new set of knives, the left-hand knife will be the cause of the irregularity. A thin Arkansas oil stone or Washita slip rubbed along the knife edge at right-angles to the knife base will eliminate the trouble. However, until experience has been acquired, just rub the stone against the knife once or twice then cast, trim and measure a slug after each stroke of the stone to see what progress is being made.

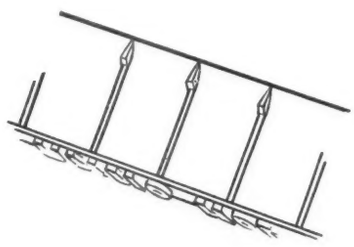


Fig. 6—Diagram showing in exaggerated form the little "humps" at the foot of the ribs which have been caused by incomplete trimming of the ribs by the right-hand trimming knife. As is explained in this article, when trimming knife edges are too sharp, the left-hand knife will gouge into the smooth side of the slug body instead of acting as a support for the slug while the right-hand knife is trimming the slug ribs. As a result, the slug skews out of balance and slips off the right-hand knife before the trimming action has been completed.

IT IS THE SINCERE HOPE OF J. M. HUBER, INC., THAT THE 1937 CONVENTION OF THE MECHANICAL DIVISION OF THE AMERICAN NEWSPAPER PUBLISHERS ASSOCIATION WILL PROVE TO BE THE MOST VALUABLE AND INSPIRING EVER HELD

Slug Body Thickness

8 pt. liner (standard)	0.110	in.
Rib after trimming	0.002	in.
Slug trimmed to	0.112	in.
Slug trimmed to true typefounders' standard	0.1107	in.

Since the average print shop micrometer does not indicate closer than tenths of thousandths in. by the vernier, it is doubtful if there is any practical purpose, let alone desire, to be served in attempting to maintain side knife adjustments to finer dimensions. There are, however, occasional jobs which require that slugs be trimmed to special measurements. The latest knife blocks provide for this contingency.

Fig.7—Under certain conditions, mold bodies and caps are subject to warpage. It is not the purpose of this article to intimate that molds warp frequently from normal use. Under abnormal conditions, however, molds can be made to warp, but these causes will not be listed in this article. The purpose of this article is to print information which will enable the machinist or machinist-operator to recognize the interferences which might prevent obtaining accurate trimming knife adjustments.

In this diagram it is intended to illustrate how a warped mold body will cause a portion of the slug to be cast of irregular thickness. Molds do not always warp alike but are apt to bow out of shape according to the alternate heat and cooling stresses set up by the most frequent region of heat application, *i.e.*, the warpage is likely to occur at the point of greatest heat. To illustrate the statement, this diagram represents a 30-em slug, the base of which has been trimmed by the back knife and has been pushed partly through the side trimming knives. The curvature of the constant side of the slug indicates that the mold body is warped out of constant line because of abnormal application of heat to only a portion of the full capacity of the mold. The body, therefore, is out of parallel alignment with the left-hand trimming knife. Mold caps, however, are apt to bow out of alignment more often than the bodies. In fact, the rate is 2 to 1, according to well-known firms who recondition line-casting machine molds.

Mold repair work requires a high degree of skill and special equipment. This repair work should not be attempted by the plant machinist. In fact, there is little time for such maintenance work in the average composing room.

A mold cooling blower is of invaluable assistance in minimizing the severe alternate heating and cooling stresses to which a line-casting machine mold is subjected. No definite data is available about the benefits to be derived from a mold cooling blower but it is safe to say that the blower will reduce mold warping almost completely and will improve slug solidity by reason of constantly reducing mold temperatures.

The usual 8 pt. liner, for instance, measures approx' 0.110 in. at the thickest corner (the front inside thickness). If it is desired to trim the slug to typefounders' body thickness 8 pt. liners measuring 0.108 in. can be obtained from the manufacturers. From a production standpoint it is well not to impose too heavy a trim on the slug. Therefore, where typefounders' measurements are insisted upon the use of the thinner liner is advisable.

Newspaper Agate Composition

In newspaper plants, the principal demand is that 5½ pt. slugs shall be so trimmed as to make 14 lines to the inch. The practice on many metropolitan dailies is to cast a 5½ pt. face on 5 pt. body. If the slugs are set down to trim approx. 0.0715 the "tails" of commas, semi-colons and descenders will trim off unless the matrix characters have been punched in a raised position. The practical thing to do is to set the right-hand knife to trim the slug to 0.074 in. and let the dry mat shrinkage take up the difference to somewhere near the right measurement. Needless to say, slugs bearing a 5½ pt. face on a 5 pt. body will be "bottled" slightly. In newspaper practice this does not seem to be a serious objection.

Grinding Knives is a Precision Operation

Grinding side trimming knives for line-casting machines is a precision operation. In speaking of *precision* work when grinding side knives the writer means just that. The cutting edges of the knives should be continuously straight throughout the length of each knife. After the knife has been ground away sufficiently to remove all traces of irregularity, the grinding wheel chatter marks should be removed by the action of a polishing wheel before the knife has been dismounted from the grinding fixture. The polished surface will prevent "leading" of the steel and make possible the holding of adjustments after the knives have been set accurately.

Keep Knives in Pairs

Not only should the original knife angles be preserved, but knives should be kept in pairs so that each knife will be approximately the same height as its mate when mounted in the machine. The importance of the ½ deg. clearance angle will be apparent when it is stated that this is the narrowest practical clearance which will permit easy ejector action and yet sustain the slug with some resistance to the ejector blade. Since the trimming of the slug is a purely shaving operation, it is necessary to minimize liability of the slug causing too much resistance on account of insufficient tapered clearance. Insufficient tapered clearance from cutting edge to knife base will cause slugs to stall the machine after the knives have become leaded. Too much tapered clearance between the knives, on the other hand, will make it difficult to obtain square dimensions from top to bottom of the slug.

Error List

The following error list is a continuance of a partial list appearing with the first installment of this article in the April issue of *Printing* Equipment *Engineer*. As was stated in that article, these errors are not to be considered as frequent or common causes for inability in obtaining true adjustment of the trimming knives.

Knives not the same height.

If knives are not matched for height or have not been ground in pairs so as to be of the same height when mounted in the machine, slug trimming difficulties will follow. The slug should be supported by the left-hand knife while the right-hand knife is trimming the slug. The point of support is opposite the cutting edge of the right-hand knife.

Left-hand knife has not been set close enough to the smooth or constant side of the slug.

Theoretically, the cutting edge of the left-hand knife must align with the constant side of the mold body. If the left-hand knife is set too close to the slug, the slug will be gouged. If not set close enough, the knife cannot support the slug against the cutting action of the right-hand knife while it is trimming the rib side of the slug. The result is that the draw at the top of the smooth side of the slug will project beyond the slug body. Also, when the slug has been pushed nearly through the knives, it will turn slightly, which action causes the lower portion of the slug to pass through the knives without being trimmed. The constant support of the left-hand knife for the slug body is essential since the cutting action of the right-hand knife on the ribs is intermittent.

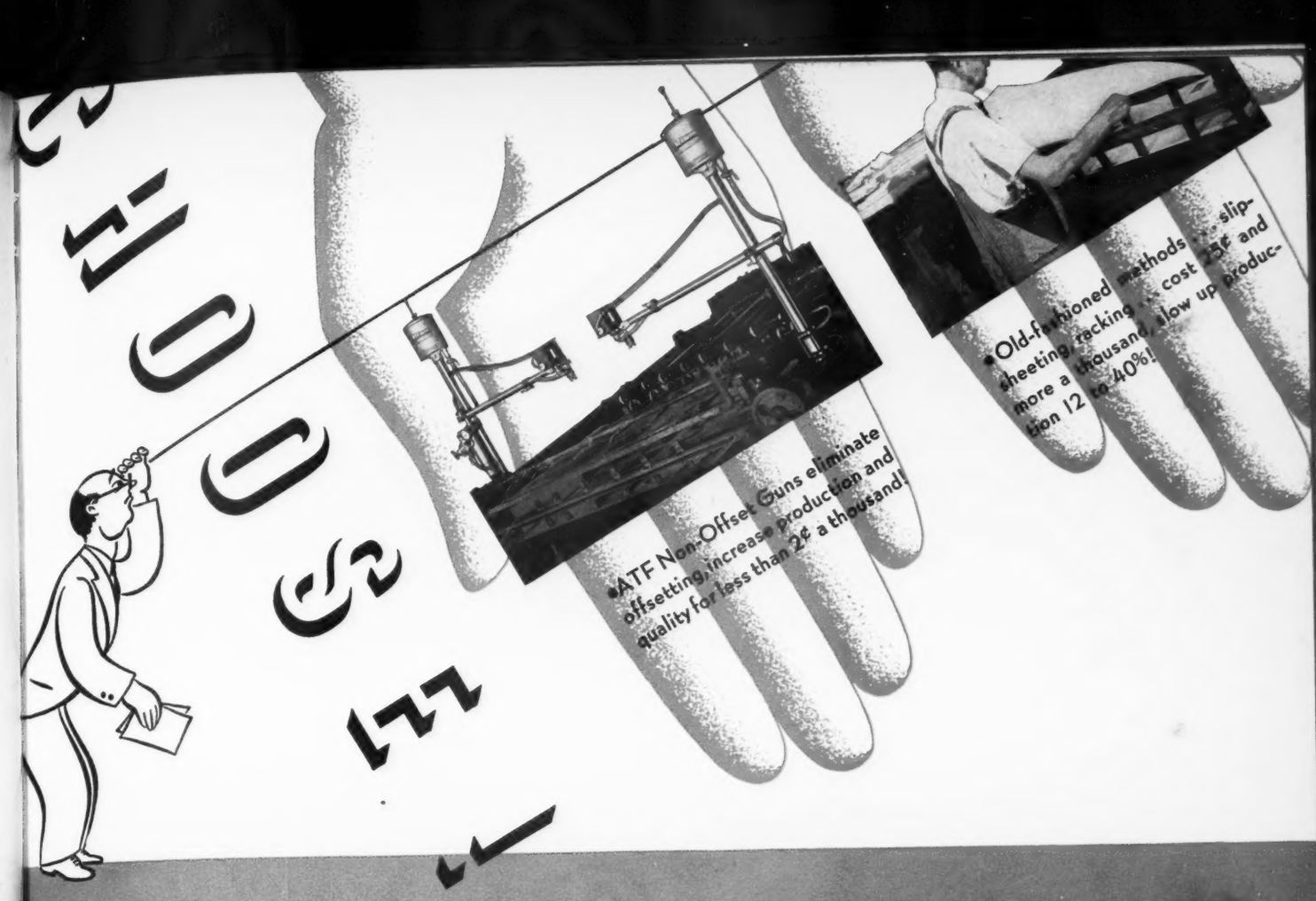
Cocked knives.

Metal, paper underlays or dirt under knife bases, bruises, contusions or cuts in knife body near base or screw holes, any of these things will cause the knife to be cocked out of position and its function of trimming slugs and providing clearance for the passage of the slug between the knives will be lost.

Worn mold disk locking studs and stud blocks.

The studs and stud blocks function to position the mold disk exactly and rigidly in the same position each time the mold disk is presented

(*Continued on Page 112*)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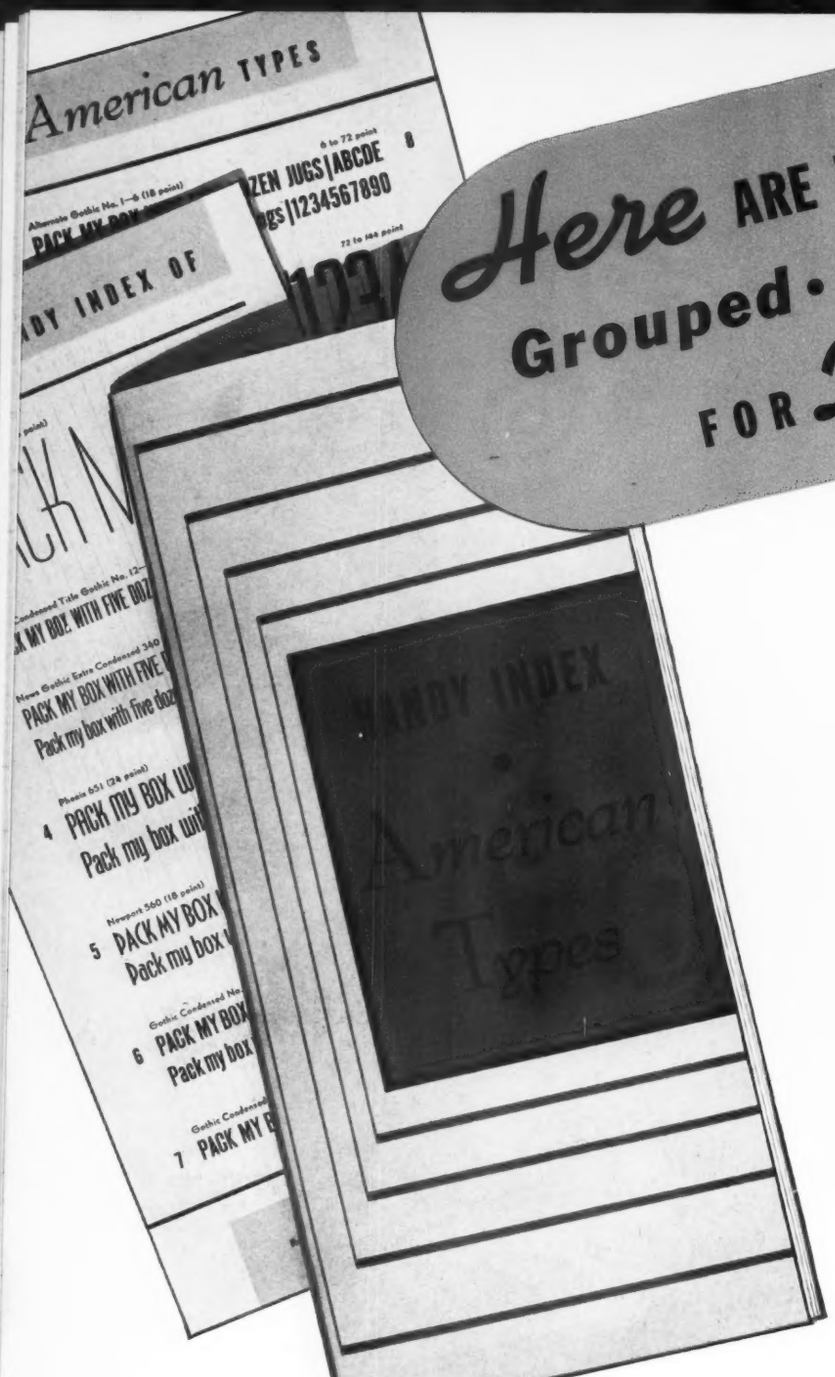
AMERICAN TYPE FOUNDERS

200 ELMORA AVENUE • ELIZABETH, NEW JERSEY

BRANCHES IN TWENTY-THREE PRINCIPAL CITIES

Types used: Shadow, Bernhard Gothics, Franklin Gothics and Alternate Gothic No. 1

Printed on Kelly Presses without offsetting thanks to ATF Non-Offset Guns



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American TYPE FOUNDERS

200 ELMORA AVENUE, ELIZABETH, NEW JERSEY · BRANCHES IN TWENTY-THREE PRINCIPAL CITI

Types used: Bernhard Gothics, Kaufmann Bold, Stymie Family and Franklin Gothics

Recent Equipment Sales

Goss Press Sales

The Chicago *Tribune* has ordered the installation of a new 16-unit Goss Multi-Color Press, with one pair of Folders. The new press will be used in printing the Sunday *Tribune* color comics section, and augments other Goss equipment which is used exclusively in producing all the *Tribune* color work.

A 32-page Goss Magazine Press has been purchased by the Methodist Book Concern, Cincinnati.

The Vancouver *Sun*, Vancouver, B. C., Canada, has ordered five Goss High Speed Anti-Friction Units and one pair of Folders.

A new Goss press has been purchased by the Peoria (Ill.) *Star*. The installation will include six Goss High Speed Anti-Friction Units and one pair of Folders. The present plans also call for an addition to the *Star's* plant.

The Buffalo (N. Y.) *News* has purchased eight Goss High Speed Anti-Friction Units and two pairs of Folders.

The Kalamazoo (Mich.) Vegetable Parchment Company is arranging for the installation of a single-unit Goss Speedry Gravure Press.

The Cuneo Press, Inc., Chicago, has purchased a 64-page Goss High Speed Pulp Magazine Press.

Two Goss High Speed Anti-Friction Units and one pair of Folders were recently purchased by the Charleston (S. C.) *Evening Post*.

Linotype Installations

Linotypes recently have been installed by the *American Press*, Lake Charles, La. (Model 8); Pittsburgher *Polish Weekly*, Pittsburgh (Two-in-One Blue Streak Model 14); Art Press, Incorporated, Chicago (Model 14); Jefferson (Texas) *Journal* (Model 14); Port Arthur (Texas) *News* (two Linotypes—a Blue Streak Model 8 and a Model 8); Montreal (Que.) *Devoir* (Model 8); New Albany (Ind.) *Ledger* (Model 8); Longview (Texas) *Lens* (Model 14); Seminole Printing Company, Miami (Model 14 with a self-quadder); American Sales Book Company, Niagara Falls (Four-Magazine Blue Streak Model 29 with a self-quadder); Rapid Service Press, Inc., Boston (Blue Streak Model 8); Connie Maxwell Orphanage, Greenwood, S. C. (Blue Streak Model 14); Orlando (Fla.) *Evening Star* (Two-in-One Blue Streak Model 29); *Northeast Breeze*, Rockledge, Pa. (All-Purpose); Lafayette (La.) *Daily Advertiser* (Blue Streak Model 14); O.K. Typesetting Company, Chicago (Model 8 with a self-quadder); Gray Printing Company, Fostoria, O. (Model 8); Will H. Chapple, Inc., Boston; Abbey Printing Company, East Orange, N. J. (Blue Streak Model 8); *Delta Star*, Greenville, Miss. (Blue Streak Model 14); Brooklyn (N. Y.) *Daily Eagle* (Two-in-One Blue Streak Model 29); Darien (Wis.) *Press; American Srbobran*, Pittsburgh (Blue Streak Model 14); Fitch Publishing Company, New York (two Blue Streak Model 8s); Milford (Mass.) *Daily News* (Two-in-One Model 14 with a self-quadder); Planck's Typographic Service, New Haven (Model 25 with a self-quadder); Cape Ann Ticket and Label Company, Gloucester, Mass. (Model 8); Cain Printing Company, Springfield, Mo. (Blue Streak Model 14); Paulist Press, New York (Blue Streak Model 14); Sandy Creek (N. Y.) *News* (Two-in-One Blue Streak Model 8 with a self-quadder); Mendenhall's Print Shop, Raleigh, N. C. (Model 14); Charles Francis Press, New York (Blue Streak Model 14); Harvard University Press, Cambridge, Mass. (Blue Streak Model 14); Craig Printing Company, Rayne, La. (Model 14); Vancouver (Wash.) *Evening Columbian* (Four-Magazine Blue Streak Model 30 with a self-quadder); Baptist Publishing House, El Paso (Four-Magazine Blue Streak Model 30 with a self-quadder); Missourian Printing and Stationery Company, Inc., Cape Girardeau, Mo. (Four-Magazine Blue Streak Model 30 with a self-quadder); Weimer Typesetting Company, Inc., Indianapolis (Blue Streak Model 8 with a self-quadder); Western Printing Company, Aberdeen, S. D. (Model 14); E. T. Lowe Publishing Company, Inc., Nashville, Tenn. (two Two-Magazine Blue Streak Model 30s with self-quadders); Superior Typesetting Company, Inc., Chicago (Blue Streak Model 14 with a self-quadder); Kingsville (Texas) *Record* (Blue Streak Model 8); John D. Lucas Printing Company, Baltimore, Md. (Blue Streak Model 8). Milton (Pa.) *Evening Standard and Miltonian* (Blue Streak Model 14); *Daily Progress*, Hammond, La. (Blue Streak Model 8); Muckler Typesetting Company, St. Louis (two Linotypes—an All-Purpose and a Four-Magazine Blue Streak Model 30 with a self-quadder); A. K. D. Printing Company, Erie, Pa. (Model 8); Batavia (N. Y.) *Times* (Blue Streak Model 8 with a self-quadder); Lebanon (Ore.) *Express* (Model 14); Madera (Calif.) *Daily Tribune* (Four-Magazine Blue Streak Model 30); Tippecanoe Printing Company, Lafayette, Ind. (Blue Streak Model 14); Rogers Printing Company, New Orleans (Blue Streak Model 14); La Coste (Texas) *Ledger* (Model 14); Kewanee (Ill.) *Star-Courier* (Blue Streak Model 14); Victoria (Texas) *Advocate* (Two-in-One Blue Streak Model 14); North State Publishing Company, Inc., Hammond, Ind. (Model 8 with a self-quadder); Ginn and Company, Cambridge, Mass. (Four-Magazine Blue Streak Model 29); Hamilton Printing Company, Chicago (Four-Magazine Blue Streak Model 30 with a self-quadder); Hardy Printing Company, Chicago (Model 8 with a self-quadder); Kansas City (Mo.) *Star* (two Four-Magazine Blue Streak Model 29s); Louisiana Polytechnic Institute, Ruston, La.; Preston (Minn.) *Republican* (Model 14); *Medical Journal*, Chicago (Model 26); Askov (Minn.) *American* (Model 14); Service Typesetting Company, Los Angeles (two Linotypes); Oakdale (La.) *American* (Model 14); Canistota (S. D.) *Clipper* (Model 8); *Jersey Observer*, Hoboken, N. J. (Two-in-One Blue Streak Model 30); Houston (Texas) *Chronicle* (four Linotypes—a Four-Magazine Blue Streak Model 30, a Two-in-One Blue Streak Model 29 and two Two-Magazine Blue Streak Model 29s); McQuiddy Printing Company, Nashville, Tenn. (Two-in-One Blue Streak Model 14 with a self-quadder); *Standard Press*, Grand Rapids (All-Purpose); Romeo (Mich.) *Press* (Model 8); Industrial & Educational Publishing Company, Ltd., Gardenvale, Que. (Blue Streak Model 8); *Le Petit Journal*, Montreal (Blue Streak Model 8); *L'Eclaireur*, Beauceville, Que. (All-Purpose); Brantford (Ont.) *Expositor* (Model 8); *Maison Don Bosco*, Quebec (Model 8); Broadcaster Publishing Company, Ltd., St. John, N. B. (Model 14).

Duplex Unitubular Press Sales

Two 8-page Duplex Unitubular presses twinned in the plant of *Our Sunday Visitor*, Huntington, Ind. These presses are equipped with Duplex removable pan fountains, quick-fold centering devices on both the half page and combination half and quarter page folder, electric roll hoist, automatic tension devices and quick lockup on all plate cylinders. These presses are also equipped with two color cylinder units.

A new 20-page Unitubular press has been shipped to *Tiger Balm*, Canton, China. This press is equipped for color printing. A complete set of Duplex stereo equipment was included with this order.

A new 16-page Duplex Standard Tubular press has been installed in the plant of the Independence (Kas.) Publishing Co.

A 16-page Duplex Standard Tubular for the Sedalia (Mo.) *Democrat*, a Standard Tubular for the Record Publishing Co., Greenfield, Mass., and an 8-page Standard Tubular for the Wichita (Kas.) Publishing Co. have been installed.

The Owosso (Mich.) *Argus Press* has added a new unit to its present Duplex Standard Tubular press, giving it a capacity of 20 pages.

The Duplex Company recently installed New Model A Flat-Bed Web Perfecting Presses in the Greenville (N. C.) *Reflector* plant—and also for the Jackson *Herald* at Ripley, W. Va.

New Model E High Speed Flat-Bed Web Perfecting presses have been installed in the plant of the Forum Publishing Co., Maryville, Mo. and the *Daily Record*, Roswell, N. M.

Flat-Bed Duplex presses have been set up in the following plants: Lamar County *Echo*, Paris, Tex.; Douglas County *Republican*, Lawrence, Kas.; The *Gazette*, Allegan, Mich.; The *Eagle Press*, Claremont, N. H., and The *Advertiser*, Kentville, N. S.

The Duplex Printing Press Company has shipped to the Kannapolis (N. C.) Publishing Company, a new Duplex Model A Flat-bed Web-Perfecting press.

A Duplex Model B Flat-bed press has been sold and shipped to the Fayette Newspapers Inc., Fayetteville, W. Va.

A new 20-page Unitubular press has been shipped to *El Pais*, Montevideo, Uruguay, consisting of five printing units, half page folder equipped with a Duplex quick fold centering device—an airplane former, and electric paper roll hoist.

An 8-page Standard Tubular press has been shipped to Frank L. Dowell & Co., Maywood, California. This press includes a complete Duplex stereotype equipment.

On May 10 The Duplex Printing Press Company shipped a new Duplex Super-Duty Double Sextuple press, with two double folders, to the New Bedford (Mass.) *Standard Times & Mercury*. This equipment includes: Two single color cylinders, Kohler reels, automatic pressure feed oil lubrication, automatic tensions, electric hoists, subway deliveries, feralun press balcony, electric brakes on all units and folders, web break detectors, web breakers, two 100 h.p. full automatic press drives. This Duplex Super Duty Double Sextuple will print 50,000 newspapers per hour.

A new Duplex Model E High Speed Flat-bed Web-Perfecting Press was shipped to the Russian Brotherhood Organization of U.S.A. in Philadelphia, Pa.

New Printing Equipment and Supplies

Automatic Pile Unloading Device

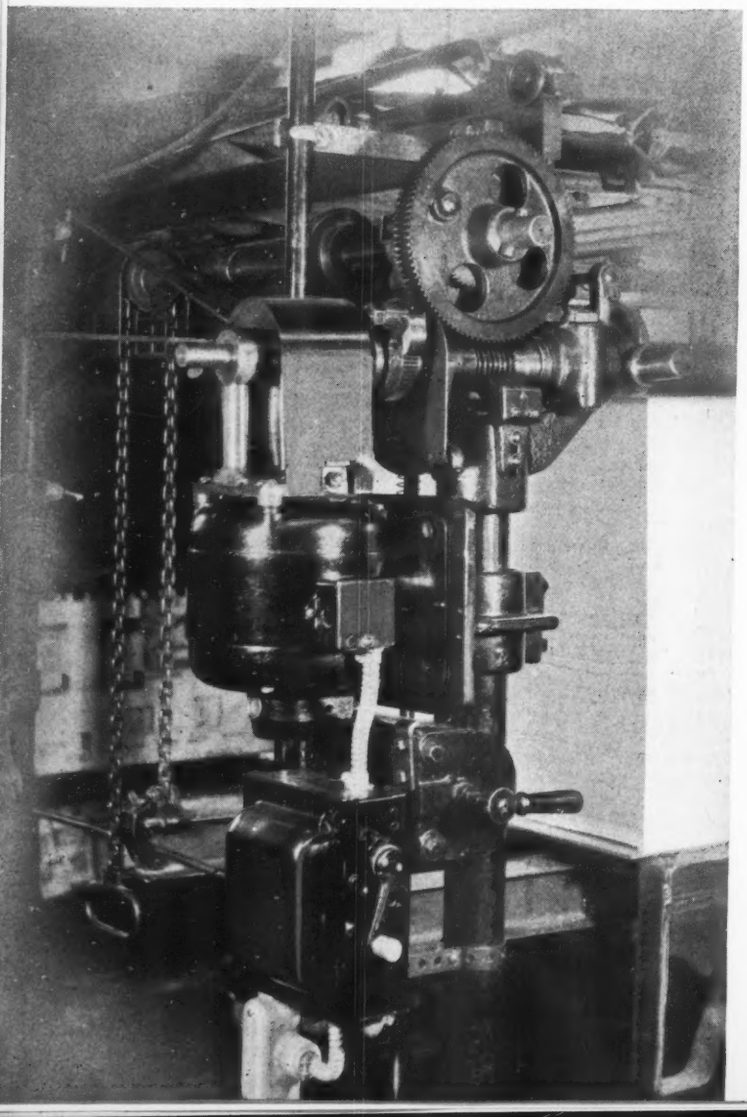
An Automatic Pile Unloading Device for single and two-color presses has been announced by Clarence E. McKinsey. The device, operating by means of a ½ h.p. vertical type motor through a worm and gear reduction, will unload a pile of paper of any height on the delivery platform, of any single or two-color press in twenty seconds to floor level. It will return the empty platform into the correct running position of the press in twenty seconds.

The Automatic Pile Unloading Device eliminates the manual operation of cranking the pile down and the replacement of the empty platform. Under manually operating conditions, from six to ten minutes are required, according to the amount of stock to be lowered.

Mr. McKinsey states the device is automatic in every respect and will save from five to nine minutes productive press time in every unloading of the delivery. Tests run on a two-color 31 in. by 46 in. Miehle printing press over a period of one year showed savings of an average of one hour productive press time per day, working two shifts.

The Automatic Pile Unloading Device can be attached to any extension pile delivery flat-bed cylinder press in a few moments.

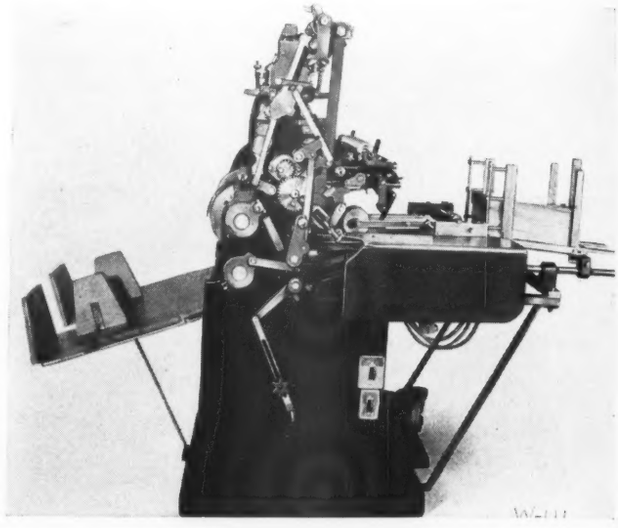
P-Double-E File No. 5Q.



New Type Automatic Offset Press

Webendorfer-Wills, Inc., announces a new offset press which is designed for printing died-out shoe box blanks, etc. The press is equipped with variable speed drive and pressure regulation. Operation of the press is the same as any lithographic machine. The press will handle a maximum size blank approximately 14½ in. wide by 23 in. long. With this new press, the design will print into the creases of the blank.

It is said the new machine will lithograph blanks at the rate of 4000 to 5000 per hour.



The press is equipped with continuous load feeder, plate cylinder, blanket cylinder, impression cylinder and water roller mechanism. Blanks are fed with suction arrangement from underneath the pile to the printing unit. Since the feeder feeds the sheets from under the pile, the operator may load from the top without stopping the press.

Further information may be obtained from Webendorfer-Wills, Inc., direct, or in care of *Printing* EQUIPMENT *Engineer*.

P-Double-E File Nos. 2D24 and 5LL.

Color Matching Facilities

One of the continual annoyances in selecting and specifying color for designers and printers has been the lack of color samples which could be chosen easily and which could also be secured in large printed sheets as needed. According to a recent announcement of the Allcolor Company, 527 Fifth Avenue, New York City, this problem has been solved by the Allcolor Cabinet and the Allcolor Papers. Arthur S. Allen is president of the company.

The Allcolor Cabinet offers 360 colors arranged in cabinets of two sizes. The small cabinet contains 3 in. by 5 in. sheets in two drawers. One drawer contains warm colors, the other cold. Neighboring or harmonious colors are next to each other and complementary or contrasting colors are opposite each other in the parallel drawers. Each of the 10 major colors is subdivided with index guides giving the three characteristics which all colors possess. The large cabinet contains 9½ in. by 14 in. sheets arranged in two drawers, one above the other. The papers are printed in printing

inks so that any good printer can reproduce the colors in actual production. Only the most permanent inks available were used.

Careful records have been kept according to a new system of color measurement employed by The International Printing Ink Corporation so that each color can be accurately reproduced at any time. They are actually precision colored papers. The paper used is a standard plate paper of a carefully selected weight to permit easy cutting, pasting, and folding for actual use in designs and dummies. The sheets are printed in specially formulated inks which permit the use of tempora color or drawing ink applied either with the brush or pen, without crawling. The Munsell system of color description used is a three dimensional one. The first symbol gives the hue, such as "R" for red, "B" for blue, and so on for the 10 major hues. The first number after the letter gives the value which designates the lightness or darkness of a color compared with a neutral scale from white to black. There are nine steps of value. The last number gives the chroma or the purity of the color indicating whether it is a grayed color or a brilliant color. The lower the last number the grayer it will be and the higher it is the more brilliant it will be. There is also a number on the back of the sheet indicating the ink so that any printer can easily order from this indication. Any good ink manufacturer can match these colors.

The Allcolor Cabinet places 360 colors at the designer's fingertips and he can work directly on the Allcolor Papers with pen or brush in ink or tempora color. On the lighter colors transparent water colors may be used. Comprehensive layouts, color plans, and dummies can be made with Allcolor Papers with the knowledge that the colors can be matched by any good ink company and printed by any good printer. Printers can submit their dummies in the actual printing inks. The large sheets can be joined together easily to give larger solid areas which will rarely be necessary. A package dummy 14 in. high by 9½ in. square can be prepared without joining sheets.

Information about any of the equipment or supplies items appearing in this department may be obtained from the manufacturer direct or through *Printing* EQUIPMENT *Engineer*.

Rihco Web Spray

The R. I. Humidifier & Vent. Co., manufacturers of industrial humidifiers, have developed what is claimed to be a simple yet effective Web Spray which will atomize liquids into a fog with sufficient velocity to penetrate.

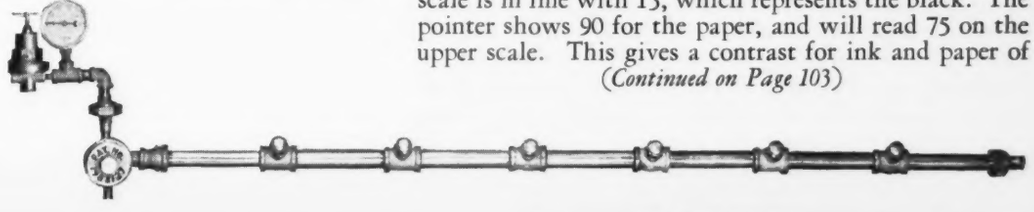
One of the features of this new equipment is its flexibility, that is, by adjusting the pressure regulator the amount of liquid to be atomized can be controlled easily and an even distribution can be obtained across the web.

The Web Spray is built entirely of brass and the nozzle design is the same as the manufacturers have used for years in regular humidifying practice.

From 15 to 30 lbs. air pressure is required. City water is used, controlling the pressure as desired by a ¼ in. regulator valve.

Manufacturer states some of the results to be obtained are: Elimination of static; elimination of wrinkles and web breaks; saving of ink; increased production; and conditioning of web especially on color presses. The Web Spray is intended for use both on commercial and newspaper rotary presses.

P-Double-E File No. 4C.



View of Rihco Web Spray which may be used for moistening moving webs on commercial and newspaper rotary presses.

New Press Blanket

Since the advent of rotary presses, cylinder packing or blankets have been made with either cork, felt or wool, rubber or fabric. The quality of printing of any press is dependent to no small extent upon the quality of its blankets. After years of experimenting, the American Publishers Supply announces a press blanket which is not composed of felt, cork or rubber.

The blanket is said to have the pliancy of wool, the long life of rubber and the resiliency of cork, and is claimed to have all the qualities necessary for fine newspaper printing.

Manufacturer states that although it was designed primarily for daily newspaper publishing, being constructed and tested to meet the problems of speed production and excess usage prevailing in the large offices, this blanket has been used successfully on flat-bed web newspaper and rotary presses.

These blankets are used as underpacking in conjunction with a drawsheet. After long useage when the drawsheet surface begins to show wear the entire press may be redressed by installing new top sheets. After a series of long press runs when the underpacking shows signs of being beaten in, the two blankets may be transposed to give the same results as a new set. Interchanging top and bottom blankets prolongs their life and offers a more even printing surface.

Newspaper Contrast Meter

According to Arthur H. Gaebel, engraving division manager of the New York *Post*, the newspaper contrast meter, of which he is the inventor, is designed to reduce to numerical factors the quality of paper, contrast of halftones, distribution of ink, strikethrough and ink penetration.

According to Mr. Gaebel, the instrument is composed of simple electrical and optical principles and is unique among photo electric cell developments because it measures the matter surface reflectivity, closely approximating the human eye's reaction when reading a newspaper. It is not designed to measure black, white or all degrees of shades in between. The light source projects a beam of light approximately a pica square on any desired part of the newspaper. The optical system projects the light from the spot to a photronic cell. This cell is sensitive in a great range to the same colors that affect the human eye. The cell passes on in electrical equivalents current to the micrammeter which is one-millionth ampere per division of the scale.

The scale on the instrument is divided into one hundred equal parts. Carbon black is represented by 0. One hundred represents calcium carbonate as the white. The lower scale is stationary.

Said Mr. Gaebel: "In operation, the instrument is placed on the darkest black pica type of an ad or picture. On a well printed newspaper this normally reads about 12 or 15. The paper itself normally reads around 90. The upper scale is now moved by the knob on the front of the inst ument so that the 0 of the movable upper scale is in line with 15, which represents the black. The pointer shows 90 for the paper, and will read 75 on the upper scale. This gives a contrast for ink and paper of

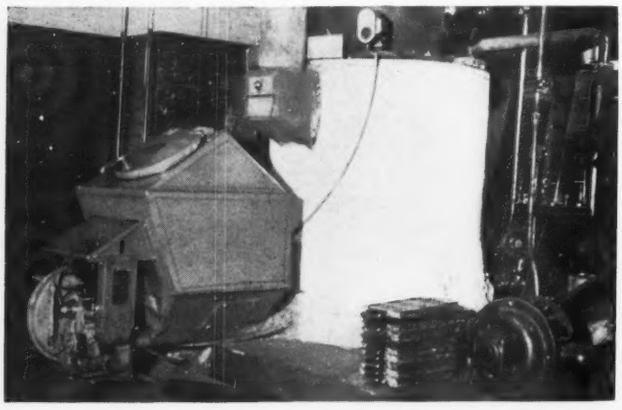
(*Continued on Page 103*)

Melting With Stokers

By J. F. SPRINGER*

Explanation of coal stokers as applied to melting of stereo metal and how to figure what you'll get from the fuel

MECHANICAL stokers are no novelty. As far back as 1910, the present writer published as many as five articles on stokers in the magazine *Power* in one year. But the stokers of that time were big fellows. There are big ones today, but there are also little machines. In fact, in the United States there are today something like 175,000 of the small sizes. These little ones probably outnumber the big ones. They are made now of such small size as to burn but 12½ lbs. of coal per hour. It would take this baby nearly a whole week of seven days, 24 hours a day, to burn a ton of coal. A stoker eight times the size of this (100 lbs. per hour) is still within the classification of small stoker.



View of automatic coal stoker in stereotype department of the Iron Mountain (Mich.) *News*. It is stated by a *News* executive that the janitor removes clinkers from the grate in the morning, fills the hopper with coal, after which the firing job with respect to labor is done for the day. The grade of coal used is approximately $5 cheaper per ton than the grade used before installation of the stoker. The saving in fuel costs since installation of the stoker is about $165 per year. An automatic controlling device keeps the metal in the 3000 lb. furnace at an even temperature.

These small machines are being used everywhere for the heating of buildings and of the water for the hot water supply. What interests printers especially, however, is that in some localities they are useful not only for the heating of the building and its hot water but also for the melting of metal for making stereotype plates and for remelting line-casting metal into feeder ingots.

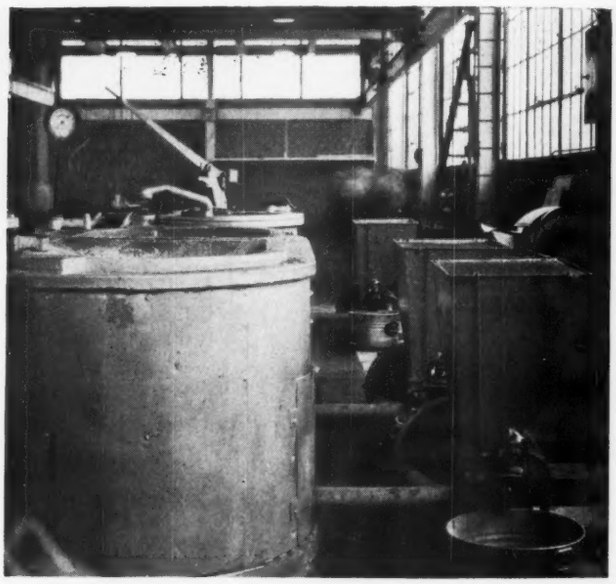
Some Installations for Metal Melting

Among the printing plants and the like where stokers are in use for melting metal, may be mentioned the following: The Phoenixville (Pa.) *Republican;* Iron Mountain (Mich.) *News;* The *Morning Press*, Bloomsburg, Pa., and The Wood Newspaper Machinery Company, Plainfield, N. J. The last named concern does a good deal of melting. It has installed three stokers. Two of these serve 4½ ton melting pots and the third a 3½ ton pot.

Explanation of BTU

In order to understand what follows, and to make calculations for one's own plant, it is advisable to be informed as to just what is meant by a British thermal unit (BTU). A BTU is the amount of heat that has to be gotten into 1 pound of water to raise its temperature 1 Fahrenheit degree. It takes a lot of BTUs to melt and lift the temperature of 1 pound of type metal the same 1 degree. And when you have to start with the metal at room temperature and bring it up nearly 600 deg., you will have to be mighty generous with the BTUs. However, 1 pound of coal contains the possibility of supplying a large number. For example, 1 pound of ordinary anthracite coal contains about 12,500 BTUs. And 1 pound of ordinary soft coal has within it some 13,500 units.

Stereotype metal and type metal may naturally both of them come in a variety of compositions, each of which will have its own particular demand for BTUs to raise its temperature 1 degree. And the required melting temperatures will vary, as well. But, let us avoid whittling things down to too fine a point and accept 620 deg.-650 deg. as the proper temperature at which to work stereotype metal.



These three stokers are used in the plant of the Wood Newspaper Machinery Corporation, Plainfield, New Jersey, for melting stereotype metal.

Now, we can get at matters by finding the weight of coal required to heat a pot of metal from room temperature up to the proper working temperature and then calculate the number of BTUs transferred to the metal from the coal consumed.

It has been found that it requires from 3½ to 4 hours for a stoker burning coal at the rate of 30 pounds per hour to bring the metal up to the working temperature. For 3½ hours we get 105 pounds of coal; for 4 hours, 120 pounds. Take the average, 112½ pounds, as representing an average case.

Now how about the BTUs involved? We do the moderate thing and put the coal at 12,000 BTUs per

(*Continued on Page 99*)

*New York, New York.

New England Newspaper Supply Company

Worcester, Massachusetts, U. S. A.

Exclusive Manufacturers of

Specialties for Printing Newspapers

(Quality Goods Only)

IMPROVED AUTOMATIC REPRESSED FELT BLANKET
OIL PROOF FACE RUBBER BLANKET
IMPROVED MONOCORK BLANKET
TINDECK UNDER BLANKET
CORK FIBRE BLANKET

All REAL and RELIABLE Press Packing, designed for this Special Work, NOT Inferior Substitutes

Forty years of practical newspaper experience enables us to manufacture our Specialties with an exact knowledge of conditions under which they will be used, and to give our supplies the qualities that will best meet these conditions.

Our competent, well known service staff gives you

Service Without Cost . . .
Saves You Money . . .
Saves You Trouble . . .

We have served you in the past, and will continue to do so in the future.

NEW ENGLAND NEWSPAPER SUPPLY CO.

Worcester, Massachusetts, U. S. A.

Teletypesetter in Honolulu

By STAFF WRITER

Newspaper division of Star-Bulletin *now uses two tape perforators and keyboard operating units —Paper produced by modern means*

HISTORY says the first printing in the Hawaiian language was done on January 7, 1822. One hundred and fifteen years later—in March, 1937—The Honolulu *Star-Bulletin*, Hawaii's largest newspaper, began setting its first type with Teletypesetters. Installation of two Teletypesetters in the newspaper division of The *Star-Bulletin* began a new chapter in the very old and very interesting history of typography in what

Herbert Flood and Elsie Kanemaru operate the Teletypesetter Perforators in the plant of The Honolulu *Star-Bulletin*, Hawaii. Mr. Flood has been a resident of Honolulu for some time. Miss Kanemaru is an American citizen of Japanese ancestry and was born in Honolulu.

was once known as the Sandwich Islands, now a full-fledged territory of the United States.

The dinky little hand press that gave Hawaii its first printing so many years ago is now in a museum in Oregon. But it has left an indelible stamp on the mid-Pacific islands, for today they have all that is modern from the standpoint of newspaper publication.

However, it remained for The *Star-Bulletin*, recognized leader in the Hawaiian journalistic field, to turn to Teletypesetter to add just one more modern touch to its already modern printing house.

Served with the news of the world by the Associated Press, United Press and other news gathering and feature agencies, The *Star-Bulletin* utilizes the radio and radio-telephone, modern presses and other up-to-the-minute plant equipment to keep a step ahead of Hawaii's steady growth and progress.

When H. W. Hudson, engineer of the Teletypesetter Corp., Chicago, walked off the steamer Mariposa at Honolulu last March 8, it isn't likely he expected to find himself in a modern American city.

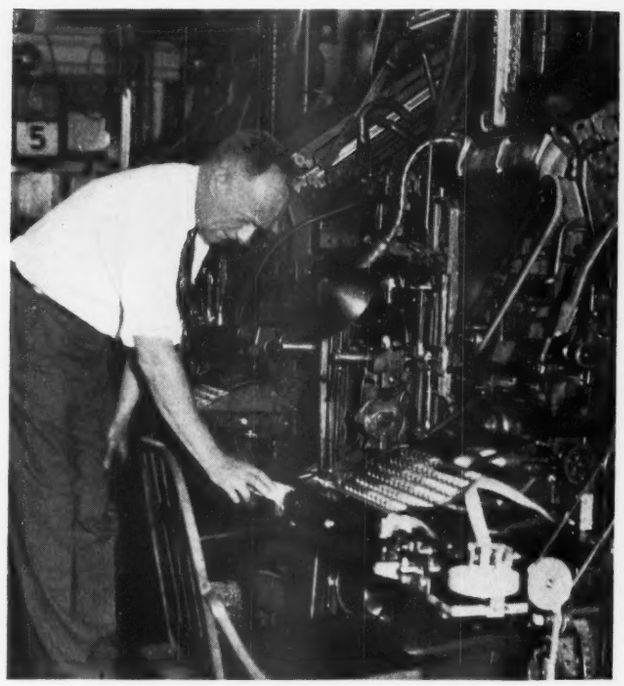
It may be he expected to see grass houses, instead of great concrete and steel piers, lining the waterfront. He may have looked for pretty hula dancers strumming ukuleles, but instead he was greeted by music from the very efficient Royal Hawaiian Band.

Since it was steamer day, hundreds of Honoluluans were at the dock. It was a crowd of gaily dressed men and women of many races and racial mixtures, a great many of them wearing leis, or wreaths, of lovely island flowers.

All this sort of overshadowed the plain business proposition that he was coming to Honolulu to set up the first Teletypesetters to be installed west of the Mississippi river.

When he left Chicago there had been snow on the ground. A few days later he was ushered into a lovely semi-tropical land, brilliant with sunshine and fanned by eternal trade winds.

If he had expected to find anything of the old Honolulu, he was disappointed. But he did find that the Hawaiian capital is pretty much like any other big American city—street cars, automobiles, electric lights, telephones (America's first dial-your-own-number kind), broadcast stations, taxicabs, hot dog emporiums and



Harold Hudson, Teletypesetter installation man, has just recently completed installing two Teletypesetter equipments in the plant of The Honolulu (Hawaii) *Star-Bulletin* plant. Note that the Linotype line-casting equipment is quite modern—Teletypesetter keyboard units, electric metal pots and automatic metal feeders.

all of the things that go to make up the average metropolis.

It was Mr. Hudson's first visit to Hawaii, of course, and he proceeded to make the most of it. When not installing the Teletypesetters, showing the men around The *Star-Bulletin* shop how they work, and giving instruction to operators, he did a lot of swimming at famous Waikiki beach, where he acquired a good coat of tan, and visited all places of interest in and around Honolulu.

To operate the Teletypesetters, Mr. Hudson obtained a couple of crack typists. One of them, pretty Elsie Kanemaru, an American citizen of Japanese ancestry, was born in Honolulu and has never been out of the territory. The other, Herbert Flood, has been a resident of Honolulu for some time.

They have the distinction of being the first Teletypesetter operators in Hawaii and in the entire Pacific area. Under Mr. Hudson's expert tutelage it did not take them long to master the keyboard and all of the little quirks of the machines. Today they are fast, efficient operators.

It was really a red letter occasion in The *Star-Bulletin* shop the day the first perforated strip from a Teletypesetters was run through the operating unit attached to one of the Mergenthalers.

Mr. Hudson left Honolulu April 10 determined to return again some day and get better acquainted with the Paradise of the Pacific.

Cleaning Elrod Water Jackets

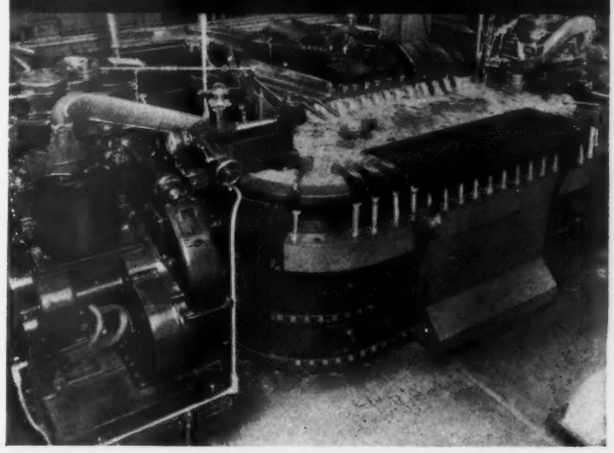
IT IS not likely that Ludlow machine mold water passages will ever clog from rust or lime deposits if Ludlow Water Compound is used. In the case of the Elrod water jacket, however, in those localities where the water supply contains lime or other elements which might cause the jackets to accumulate lime or rust deposits, it is necessary occasionally to clean the deposits from the jackets.

It is easy enough to remove the top plate from the Elrod water jacket when it is desired to clean out foreign deposits, but it is not practicable to remove the bottom plate. Under ordinary conditions, instead of removing rust and lime deposits which accumulate in jackets of the machines, by mechanical means, it is recommended by the Ludlow Typograph Company that the machinist obtain a boiler water-softening compound from a local plumber. The boiler compound is generally made so as to act properly on the particular lime or other deposit which may have accumulated in the mold chamber.

In certain localities where the lime deposits are particularly heavy, owing to heavy lime content in the water supply, commercial muriatic acid may be used. It is impressed upon the person using commercial muriatic acid for cleaning the Elrod water jacket that the results will be satisfactory if the acid is handled carefully. The action of the acid is such that while attacking lime deposits it will boil or bubble. Not only can the operator or machinist become severely burned but if the acid overflows on an electric machine it is almost certain to find its way to the insulation surrounding the sealing units and the throat units and will destroy the insulation.

To clean a water jacket with either the boiler compound or the acid, first remove the elbow (or overflow) in the upper plate; shut off the inlet and the drain valves; coat the screw threads for the elbow in the top plate with beeswax or paraffin to protect the threads and then pour into the jacket chamber sufficient solution to clean out but not enough to overflow the jacket chamber. Usually, when acid is used, it will eat through the rust and lime deposits in about 30 minutes, depending upon the amount of accumulation in the jacket. As soon as the deposits have been disintegrated, replace the outlet elbow and pipe and turn on the water supply so as to wash out the residue and prevent the acid from taking further action. Commercial muriatic acid will not only eat rust and lime deposits but will attack cast iron as well, if left in the jacket chamber for too long a period of time.

5 REASONS WHY
St. Louis Globe-Democrat
USES
G-E ELECTRIC HEAT



Electrified stereotype-melting furnace in *St. Louis Globe-Democrat* plant

FOR almost six years, the *St. Louis Globe-Democrat* has been using electrified stereotype-melting equipment because it wants the advantages that only clean, safe, odorless electric heat offers — such advantages as:

1. Higher-quality plates
2. Faster production
3. Thorough dependability of operation
4. Cool and comfortable working conditions
5. Less dross

Two 10-ton furnaces, and two smaller special casting pots, in its plant are equipped with G-E Calrod units.

Greater Efficiency and Production

The completely automatic temperature control possible when electric heat is used increases the workmen's efficiency and speeds up production. Uniform heat distribution provides a uniform, clear-cut plate that adds to the appearance of the printed matter. Furthermore, operation is silent, and working conditions are cleaner and cooler.

For complete information about this equipment—or about General Electric's dependable press drive and control—call the nearest G-E sales office or write General Electric, Dept. 6A-201, Schenectady, New York.

GENERAL ELECTRIC
160 61

Color Rotogravure

By M. RAOUL PELLISSIER*

Variations in printing color discussed — Automatic sensitization of carbon tissue — Automatic retouching method now being worked out

MOST of the trouble or perhaps I should say the difficulties in producing first class colorgravure appear to concentrate in two places—in the color separation in the first place and in the printing in the second place.

Efforts are being made to treat the matter of color in about the only way it seems likely to be solved—that is, by using stated pigments for the primary colors in the paints, water color or oil, that the artist may use to produce his originals and identically the same pigments in the inks used by the printer. Then, too, the filters for the color separations are especially made to take care of these particular colors. Surely we then have a real basis upon which to work. Of course, if the art director doesn't like the girl's pink dress and wants it changed to light blue and our artist just superimposes a wash of the latter color, the fact that the camera or rather the lens may pick out the pink that lies below is just too bad, but it won't happen very often. More trouble is likely to be encountered when His Artistic Highness cannot get just the green he wants with the yellow and blue that he *must* use and that, too, will be just too bad.

In the production of the cylinders no great difficulty should be encountered in getting register to-day. The carbon tissue can be so treated as to have absolutely no shrinkage nor stretch whatever and modern methods of superimposing the positives are quite efficient.

Automatic Sensitization of Carbon Tissue

I have lately seen results with a new machine for automatically sensitizing carbon tissue. There is no stretch here either, the tissue may be used almost at once or it can be kept and used weeks after it has been sensitized.

A process is now being developed whereby the relative proportions of each color in a given design are automatically registered on an instrument. In making subsequent separations the proportion of any one color may be decreased or increased automatically at will. This method will use no camera in any part of the work and it is claimed that no retouching will be necessary. Carbon tissue is done away with. The process is not reversed halftone but is genuine gravure. More than one of the clearest thinking minds in the world of science have combined to work on this method, so there are strong hopes that it will be available shortly.

Variation in Printing Color

But we do get variation in the printing of gravure cylinders, probably due in the main to variation in the stretch of the paper. While this is manually and to a certain extent automatically subject to correction, the fact remains that with present speeds many hundreds if not thousands of poor copies may be run off before poor register has been noticed and corrected.

A roll of paper, weighing maybe a ton, can be used up on a modern fast gravure press in about an hour. If you'll test the humidity content of this roll near its outside and again near its centre you will find quite a variation. Then a new roll comes in, possibly fresh from some outside storeroom that at least in winter differs very materially in humidity and temperature from the press room and again we have more variation. Even in offset printing on sheets, these, in an up-to-date press room, are invariably hung up to overcome inequality in stretch.

This variation of course means variation in stretch and when the paper travels ten to twenty feet between colors anything can happen. So perhaps the press manufacturers can effect some means of controlling or correcting this variation, from color to color. Or the development now taking place of a press in which the impression cylinder is much larger than usual with the printing cylinders arranged around it, may answer the purpose as the paper is at all times held rigid and doesn't travel half as far as in the usual type of gravure printing machine.

Retouching is Bugaboo of Present-Day Color Work

One of the bugaboos of present day color work is the amount of retouching that has to be done on negatives and positives due to a faulty rendering of color values. Most of this retouching is done with brush or pencil or perhaps with a knife. Suppose that we are working on a reproduction of J. M. W. Turner's "Fighting Temeraire" for instance, full of Turner's individuality and wonderful color. What chance is there that the reproduction will be a faithful copy of the original if too much of this retouching has to be done? We shall lose the technique of the master and in the end just have the more or less doubtful technique of some retoucher.

Automatic Retouching

A method is now being worked out that will make use of purely automatic retouching in no way affecting the artist's touch and this should prove a Godsend. In the old days almost all our retouching was done almost entirely by means of local reduction and intensification. Even the pupil of an eye could be changed in this way without interfering in the smallest degree with the texture of the original.

The modern method of masking with the aid of the Densitometer has also been of very material assistance and I have lately seen two excellent color reproductions done in this way with very little retouching.

Considering the difficulties encountered, it is really wonderful to see such beautiful color work turned out as I have seen within the last few weeks during a trip to various cities.

Best Colorgravure Procedure

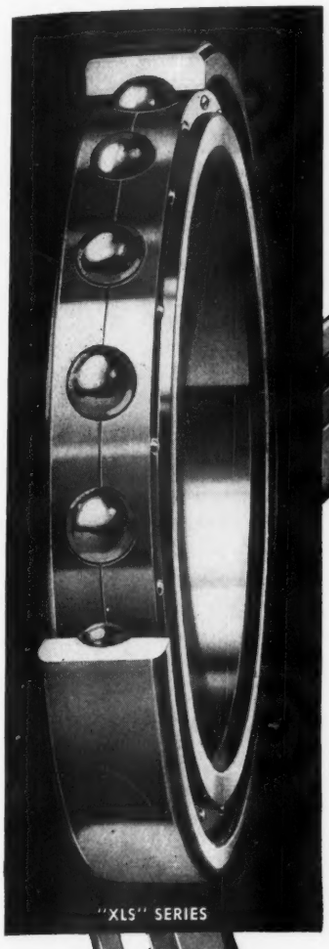
The best newspaper colorgravure is turned out by a plant that makes a complete etching and proving of all colors, correcting the final proofs, and with these as a guide they proceed to make the actual cylinders that print the edition. Waste of time and money? Not a bit of it! Their quality calls forth praise from the ad-

(*Continued on Page 98*)

*Director, Gravure Foundation of America. Paper presented before the Graphic Arts Technical Conference, New York, N. Y., May, 1937.

When You're Cramped for Space

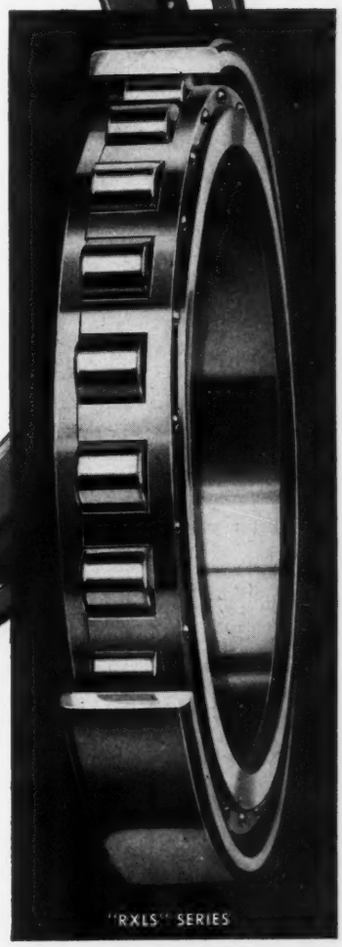
USE THESE VERY LIGHT INCH SERIES BEARINGS



HAVING bores abnormally large, as compared with the outside diameter, they offer definite advantages under certain conditions found in machine design. You may have them in several different types, *affording compactness, light weight, and greater latitude in your design.*

There are several lines of very light type ball bearings, which include the "S" starting at 1/8" bore, and the "XLS" starting at 1 3/8" bore, running up to a maximum of 21" bore and 28" outside diameter. And in very light type roller bearings, there is the "RXLS" Series, paralleling the "XLS" in size range.

Why not let our engineers tell you more about these Very Light Precision Bearings? Write for the Catalog.



"NORMA-HOFFMANN"

PRECISION BALL, ROLLER AND THRUST BEARINGS

NORMA-HOFFMANN BEARINGS CORP'N.—STAMFORD, CONN., U. S. A.

ACCLAIMED *by* MASTER CRAFTSMEN

For

DEPENDABILITY

The stereotypers and pressmen of America's great newspaper industry are keen judges of quality. They have chosen Wood Dry Mats in an overwhelming majority—ample evidence of the reliability and excellence of the product of the nation's oldest manufacturers of commercial dry mats.

Always *Uniform*

WOOD FLONG CORP.
HOOSICK FALLS • NEW YORK

WOOD EXPANDS FURNACE LINE

The Wood Newspaper Machinery Corporation, Plainfield, N. J., has added to its variety of standard melting furnaces the complete line of Ensign-Reynolds, Inc., New York. The Wood Company is now in position to furnish to the users of stereotype metal melting furnaces an internal-fired gas pot. The Wood Company is building a much improved type of furnace, the crucible of which is made of the finest fire-box steel, and it is this new type of furnace that will be supplied with the economical submerged type of gas-heating units.

In addition to the stereotype furnaces, the Wood Company will have a complete line of smaller metal furnaces in capacities up to 2500 lbs. This type of furnace is particularly adaptable for linotype slug remelting, flat-casting and for similar applications of this type.

Another addition to the Wood line is a furnace used for backing electrotypes.

It is reported that arrangements have been made with the General Electric Company whereby the latest Wood "fire-box steel" pots can be furnished with electric units, or the pots can be furnished drilled, ready to receive the electric units.

DIRECTOMAT WILL EXHIBIT

C. Fritschi, president of Lake Erie Stereotype Equipment Company, announces that a Directomat Hydraulic Matrix Press and Vulcanizer will be exhibited in Booths 178 and 179 at the National Printing and Allied Industries Exposition to be held in Chicago from June 12 to 20. The Directomat will be demonstrated for producing newspaper mats, bakelite mats and rubber printing plates. Printers are invited to bring plates or forms for the purpose of having mats or rubber plates made at the exhibit.

The Equipment Market

According to Secretary James E. Bennet, of the National Printing Equipment Association, Inc., *The Publishers Auxiliary*, of which Earl E. Sproul is advertising manager, has issued a statement to the effect that the Non-Metropolitan Publishing and Printing Industry will spend between $40,000,000 and $50,000,000 during 1937 for supplies and new and used equipment.

The survey indicates that 13,159 plants expect to spend $37,213,652 for supplies and $10,606,154 for equipment, a total of $47,819,806 in 1937.

Since this is based upon what the plant owners admit that they expect to spend, without any pressure from sales organizations, it is reasonable to expect that the total will be more nearly $50,000,000.

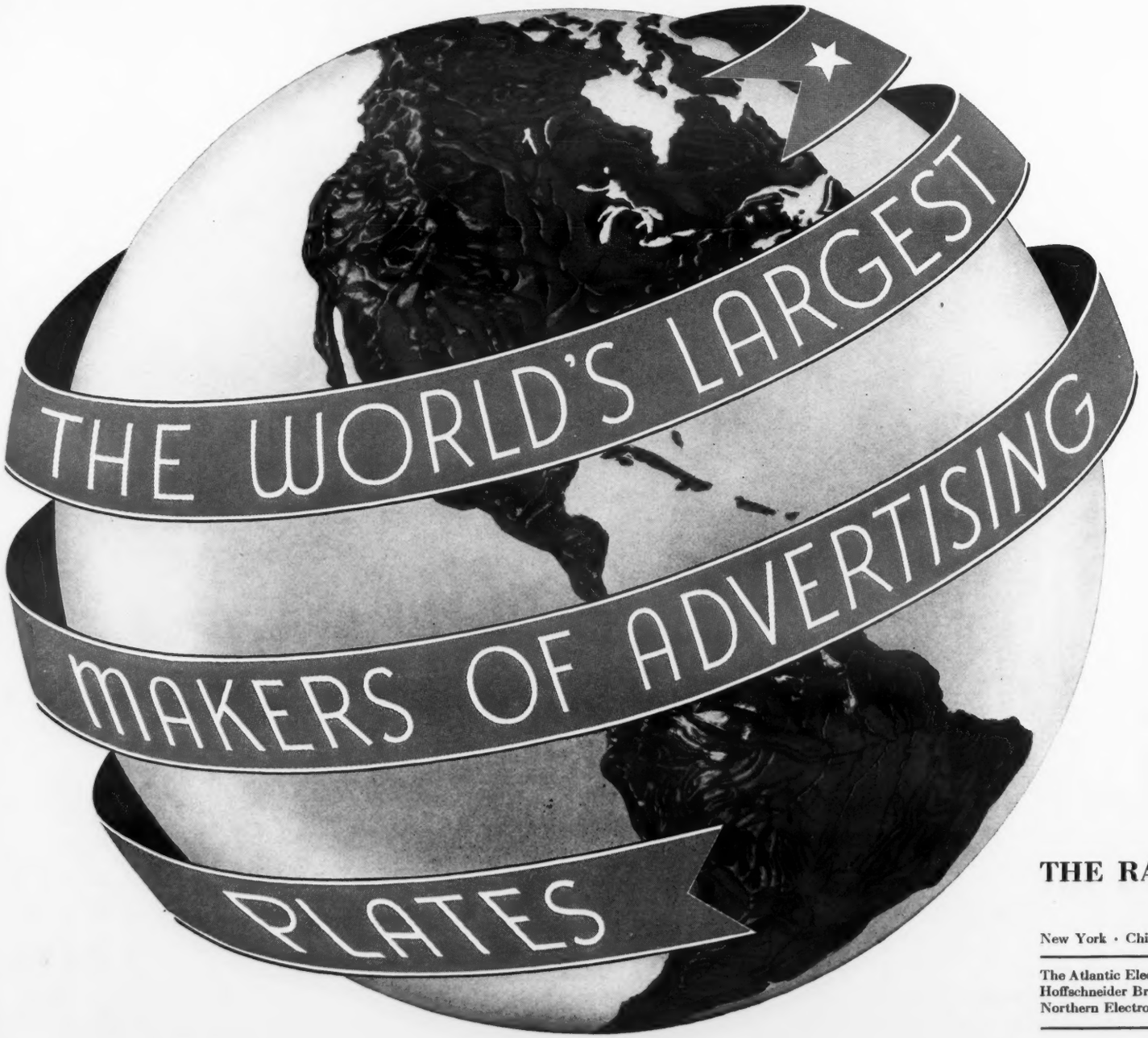
Those who answered the question:

> What equipment, if any, is actually needed now to put your plant in running order?

replied as follows:

Newspaper presses	213	Slugs	2
Job presses	262	Typesetting machine	22
Paper cutters, drills, etc	196	Font of wood type	3
Typecasting machines	186	Typewriters	6
Stereotype equipment	177	Addressing machine	3
Type and type metal	374	Mat caster	20
Photoengraving equipment	123	Saw Trimmer	9
Power equipment	56	Cabinets	6
Folder	46	Chases, folio	2
Perforator	41	Stones	5
Power saw	45	Pony cylinder	6
Router	15	Magazines	10
Punch	18	Feeder	5
Offset equipment	3	Bench saw	2
Stitcher	17	Numbering machine	2
Ruling machine	2	Proof press	3
Set of news matrixes	2	Mailing equipment	2
Casting box	20	Mat Scorcher	2
Stapler	6	Binding equipment	3
Strip border	3	Miscellaneous	19

The average amount invested in mechanical equipment in each of the plants which were covered in the survey was $10,485, Mr. Sproul reported. He estimated from this that $137,972,115 is invested in mechanical equipment in the 13,159 newspaper and job printing plants outside the large cities.



MEN in the pressrooms and stereotype rooms of the nation's newspapers— men whose job it is to get out a "clean sheet"—know as soon as an electrotype, stereotype or mat arrives just what the printing difficulties will be and how the job will look in the paper. They will tell you that Rapid mats invariably cast cleanly, that Rapid plates mat perfectly, and that Rapid-made reproductions are a credit both to the advertiser and the newspaper.

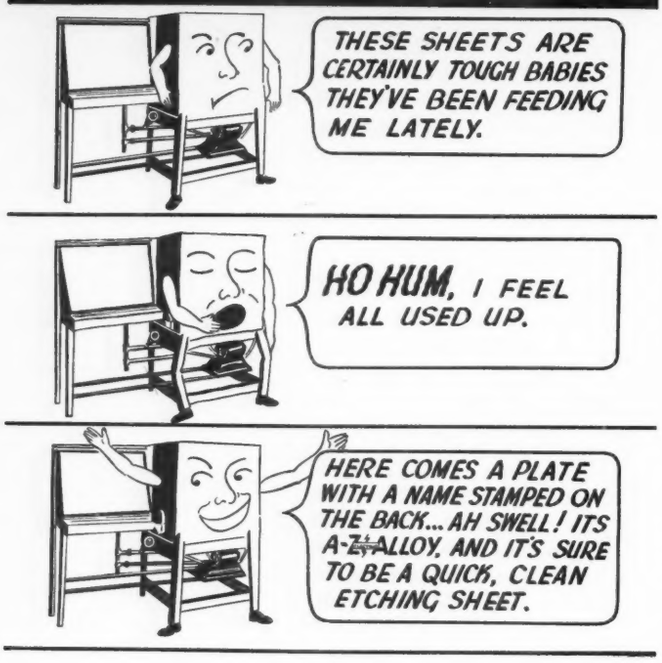
THE RAPID ELECTROTYPE CO.

Cincinnati

New York · Chicago · Detroit · Philadelphia · Atlanta · San Francisco

The Atlantic Electrotype & Stereotype Co.....*228 E. 45th St., New York*
Hoffschneider Bros.....*500 Howard Street, San Francisco*
Northern Electrotype Co.....*47 Burroughs Avenue, Detroit*

Wonder what an etching machine thinks about


THESE SHEETS ARE CERTAINLY TOUGH BABIES THEY'VE BEEN FEEDING ME LATELY.
HO HUM, I FEEL ALL USED UP.
HERE COMES A PLATE WITH A NAME STAMPED ON THE BACK... AH SWELL! ITS A-Z ALLOY, AND IT'S SURE TO BE A QUICK, CLEAN ETCHING SHEET.

● Zomo Electric Zinc and A-Z Alloy are famous for etching speed and cleanness. They are made in the electric induction furnace which assures dependable uniformity in composition and temper. Save minutes, money, and make-overs by ordering these metals from leading suppliers in the United States, Canada and England.

ZOMO ELECTRIC ZINC
A-Z ELECTRIC ALLOY

Patents

APRIL-MAY

Bookbinding:

2,078,988. BOOKBINDER. Frank Amato, New York, N. Y., assignor to Kamket Corporation, New York, N. Y., a corporation of New York. Application December 21, 1933, Serial No. 55,556. 4 Claims. (Cl. 129—23).

4. A book binder comprising a backing, a support secured to the backing, one edge of the support being provided with perforations, a binder element comprising a plurality of sheet-supporting members, each sheet-supporting member comprising a ring-like member, a tongue, an opening in the ring-like member, the ring-like members and the tongues being made of continuous bent stock material, a tie member extending from one ring-like member to the adjoining ring-like member, the opening being defined by a tongue and the end of the ring-like member, the tongue extending a short distance beyond the opening and providing means to guide the sheet to the ring-like member, the binder element being normally carried by the support with the ring-like members passing through the perforations in the support, with the tongues located beneath the support, the binder element being rotatably supported on the support, and when rotated from the normal position, the tongues swinging from beneath said support and exposing their ends and the openings for threading and reception of sheets perforated along the edges thereof.

Composing Machines:

2,079,196. TYPOGRAPHICAL COMPOSING MACHINE. Christian Agustus Albrecht, Berlin, Germany, assignor to Mergenthaler Linotype Co., Brooklyn, N. Y., a company of New York. Application January 6, 1936, Serial No. 57,865. In Germany January 29, 1935. 5 Claims. (Cl. 199—18.)

1. In a typographical composing machine, the combination of a plurality of space-matrix releasing devices, a corresponding plurality of groups of character-matrix realeasing devices, and means associated with each such group and with a respective space-matrix releasing device adapted to effect the actuation of the space-matrix releasing device through the actuation of any one of the character-matrix releasing devices of the respective group.

2,079,198. DISTRIBUTING MECHANISM OF TYPOGRAPHICAL COMPOSING MACHINES. William Morris Bower, Romford, England, assignor to Linotype and Machinery Limited, London, England. Application December 28, 1935. Serial No. 56,436. In Great Britain, December 31, 1934. 4 Claims. (Cl. 199—33.)

1. In or for a typographical composing and distributing machine, a distributor bar of the standard seven-rib variety, the bar having a plurality of pairs of ribs of a given depth and one pair of ribs of a greater depth.

2,079,199. TYPOGRAPHICAL MACHINE. Harold A. Burt, St. Albans, N. Y., assignor to Mergenthaler Linotype Company, a corporation of New York. Application December 14, 1935, Serial No. 54,403. 24 Claims. (Cl. 199—45.)

1. A typographical composing machine including, in combination, a plurality of superposed matrix magazines, a shift frame including relatively fixed individual base frames underlying the magazines and whereon the magazines are removably mounted, and devices common to all the magazines and movably mounted on the main frame of the machine for supporting a selected magazine during its removal from and replacement on the corresponding base frame.

2,079,200. TYPOGRAPHICAL COMPOSING MACHINE. Harold A. Burt, St. Albans, N. Y., assignor to Mergenthaler Linotype Company, a corporation of New York. Application December 30, 1935, Serial No. 56,681. 19 Claims. (Cl. 199—20.)

1. A typographical composing machine including, in combination, a plurality of superposed magazines, a shift frame wherein the magazines are removably mounted, a supporting frame wherein the shift frame is mounted and movable to locate a selected magazine clear of the assembler devices to facilitate the removal thereof, means mounted in the supporting frame for moving the shift frame to locate one or another of the magazines in operative position, and mechanism mounted in a fixed part of the machine for operating the means.

2,079,209. TYPOGRAPHICAL MACHINE. John H. Hilpman, Springfield Gardens, N. Y., assignor to Mergenthaler Linotype Company, a corporation of New York. Application December 14, 1935, Serial No. 54,399. 7 Claims. (Cl. 199—33.)

1. In or for a typographical machine for handling matrices formed at their upper and lower ends on opposite edges with projecting ears, a matrix distributing chute or channel presenting opposite side walls for guiding the matrices by their side faces and provided at its discharge end with flanges capable of engaging both the upper and lower ears on both edges of the matrices in order to maintain the matrices in a definite predetermined position before they are discharged, and means in advance of the flanges presenting a long cam surface for engaging the projecting ears on one of the edges of the matrices to shift the matrices to the proper sidewise position before the projecting ears on the opposite edges of the matrices engage their cooperative flange, and flexible means to hold the matrices from tilting as they are shifted sidewise.

2,080,309. LINE CASTING MACHINE. Lewis Geisert, Philadelphia, Pa. Application November 3, 1934, Serial No. 751,398. 1 Claim. (Cl. 199—27.)

In a line-casting machine, the combination with an assembling elevator comprising matrix-supporting rails, of an assembler chute for delivering matrices to the elevator, the chute comprising an assembler block having matrix-guiding rails, the lower ends of which are arranged in proximity to the rails of the elevator, means providing a slot at the lower end of a rail of the block, and a plate mounted in the slot with an end thereof in alignment with the rail, the plate in effect constituting the lower end of the rail and being adjustable in the slot to maintain a close juncture between the rail and the entering end of the adjoining rail of the elevator.

Feeding, Folding, Delivery:

2,080,010. SHEET FEEDING APPARATUS FOR PRINTING MACHINES. Tom Rowlands, Timperley, and John Shuttleworth, Sale, England, assignors to Linotype and Machinery Limited, London, England. Application February 27, 1936, Serial No. 66,094, In Great Britain February 28, 1935. 5 Claims. (Cl. 271—26.)

Patent Papers

Printed copies of patents are furnished by the United States Patent Office at 10 cents each. Address the Commissioner of Patents, Washington, D. C., and enclose 10 cents for each patent paper wanted

1. In an apparatus for separating sheets from a pile and advancing each sheet beneath a preceding sheet towards a printing machine, the combination of two sheet-separating suction feet near the rear edge of the pile operable to raise the uppermost sheet of the pile, two sheet-feeding suction feet near the separating feet adapted to take each sheet from the sheet-separating feet, means adapted to reciprocate the sheet-feeding feet above the pile in one horizontal plane from and to the position in which it receives the sheets, and means adapted to vary extent of reciprocation at least one sheet-feeding foot independently of the other.

2,079,668. BLANK FEEDING MECHANISM FOR PRINTER-SLOTTERS. George W. Swift, Jr., Bordentown, N. J., assignor to George W. Swift, Jr., Inc., Bordentown, N. J., a corporation of New Jersey. Application June 1, 1935, Serial No. 24,463. 5 Claims. (Cl. 271—10.)

1. A mechanism for feeding blanks to a corrugated paper board printer-slotter machine having frictional main blank feeding rolls, means for driving the rolls in timed relation to the parts of the machine which perform the desired operations on the blank, a chain feed mechanism for the blanks located immediately in advance of the feeding rolls and having means for driving it at a speed approximating the rate of travel of the blanks through the main feeding rolls, the mechanism having pushers constructed to engage behind the rear of the blanks to be fed, intermediate feed rolls located in advance of the blank-receiving portion of the chain feed mechanism, a frame located in advance of the intermediate feed rolls and constructed to support a stack of blanks to be fed, a feed member working underneath the frame and constructed to push against the rear end of the bottom blank of the stack to move the blank partially out from underneath the stack to the intermediate feed rolls, driving means for the feed member engaging the same relatively slowly with the bottom blank as compared to the rate of travel of the blanks through the main feeding rolls, and means for driving the intermediate feed rolls to feed blanks at a speed in excess of the rate of travel of the chain feed mechanism, the feed member and intermediate feed rolls being coordinated to feed the blanks to points on the chain feed mechanism which are somewhat in advance of the pushers.

2,079,651. WEB AND SHEET CONTROLLING MEANS. Curtis S. Crafts, Oak Park, Ill., assignor to The Goss Printing Press Company, Chicago, Ill., a corporation of Illinois. Application August 1, 1935, Serial No. 34,189. 2 Claims. (Cl. 164—68.)

2. A web cutting and folding machanism including in combination rotary cutters, a cylinder having sheet taking devices, a rotatable bar for pressing the sheet head against the cylinder at the instant of sheet taking, and sheet guiding means including a guide member extending from the cutting locus beyond the sheet taking locus, the bar being recessed to pass the guide member during the taking of the sheet.

Miscellaneous:

2,078,635. INK ROLLER CLEANING DEVICE. Richard A. Krahmer, Yonkers, N. Y. assignor, by mesne assignments, to R. Hoe & Co., Inc., New York, N. Y., a corporation of New York. Application October 26, 1934, Serial No. 750,223. 3 Claims. (Cl. 101—425.)

3. In a mechanism for cleaning ink rollers in a printing machine, end supports,each having one end secured to the machine and a bearing at another end thereof, a shaft rotatably mounted in the bearings, brackets secured to the shaft, a **Z** bar and a roll engaging blade secured to the brackets and arranged so that the **Z** bar will provide a trough beneath the blade when in an operative position, a lever secured to the shaft and adapted to rock same and move the blade to an operative or an inoperative position, and a clamping member adapted to lock the lever in any desired position.

2,078,742. OFFSET PREVENTING MECHANISM. Arthur K. Taylor, Baltimore, Md., assignor to The United States Printing and Lithograph Company, Baltimore, Md., a corporation of Ohio. Application December 7, 1935, Serial No. 53,329. 6 Claims.

1. In combination, mechanism for receiving freshly printed sheets in succession from a press with printed faces up, a sprayer above the sheets to spray anti-offset liquid upon the passing sheets, a pair of absorbent endless belts each being mounted on a pair of spaced rollers, one belt being on each side of the sprayer and the rollers extending substantially at right angles to the direction of movement of the sheets, one roller of each belt being in proximity to the moving sheets and the other roller of each belt extending above the spread of the spray from the sprayer and means to drive the belts whereby the spray is confined and directed upon the sheets and the absorbent belts constantly present an adhering surface for spray striking the same.

2,078,790. OFFSET PROCESS. Edmond H. Bucy, Waukegan, Ill., assignor, by mesne assignments, to Atlas Powder Company, Wilmington, Del., a corporation of Delaware. Application December 24, 1931, Serial No. 582,919. 10 Claims. (Cl. 101—420).

3. The method of preventing offsetting of printed sheets which consists of forming a plurality of minute disconnected particles upon the surface of the sheets by spraying them with a solution of a cellulosic material dissolved in a volatile solvent, the solvent substantially entirely evaporating in the time of travel of the spray to the sheets, and the cellulosic material reaching the sheets in a tacky and adhesive condition.

2,078,800. PAPER BREAK DETECTOR. Pieter Juchter, Scotia, N. Y., assignor to General Electric Company, a corporation of New York. Application December 3, 1936, Serial No. 114,006. 3 Claims. (Cl. 192—127.)

1. In combination, means for moving a paper strip, a photoelectric device arranged to receive light controlled by the strip, means responsive to the device for controlling the moving means and an enclosing casing for the device having a window arranged to be rubbed by the strip.

2,079,287. SPRAYER FOR PRINTED SHEETS. George E. Hieber, Cincinnati, Ohio, assignor, by mesne assignments, to The Sprayomatic Products Company, Cincinnati, Ohio, a corporation of Ohio. Application December 7, 1934, Serial No. 756,497. 1 Claim. (Cl. 91—16.)

In combination with a printing press having a discharge end, means for receiving and stacking individual sheets of work printed by the press and means movable back and forth for transferring printed sheets from the discharge end of the press to the receiving and stacking means, of an electrical circuit controlling means dispcsed in the path of movement of the back and forth moving means of the press, whereby the circuit controlling means is actuated in timed relation with the discharge of printed sheets from the press for alternately opening and closing an electrical circuit, a base independent from and disconnected from the press and positioned adjacent to the discharge end of the press, an electrically operable spray device disposed upon the base to discharge a spray of quickly drying fluid substance over sheets as the sheets are moved from the discharge end of the press to the receiving and stacking means, and a source of electrical energy in electrical connection with the circuit controlling means and the electrically operable spray device, whereby upon opening and closing of a circuit including the source of electrical energy, the circuit controlling device and the electrically operated spray device, the spray device is rendered operative and inoperative in alternate sequence for spraying printed sheets during the period of transfer only of the sheets to the sheet receiving and stacking means.

2,079,388. FILE FOR NEWSPAPERS AND PERIODICALS. William H. Vetor, Detroit, Mich. Application June 24, 1935, Serial No. 28,079. 13 Claims. (Cl. 129—38.)

3. A file comprising a spindle, a pair of slotted flanges mounted thereon for adjustment of their relative spacing, a plurality of rods the extremities of each of which are engaged by opposed pairs of flange slots, each rod being adapted to extend centrally through a newspaper section and hold the central folded portion of the section against the spindle, and means cooperating with the flanges preventing accidental disengagement of the rod extremities.

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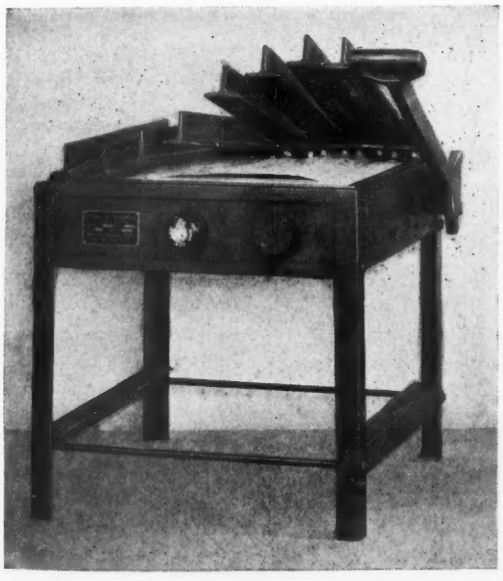

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Head-Machinist, San Diego Union-Tribune:

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2,079,390. WORK HOLDING AND SAFETY DEVICE FOR PAPER CUTTING MACHINES. Daniel M. Winans, Binghamton, N. Y. Application November 1, 1934, Serial No. 751,008. 8 Claims. (Cl. 164—59.)

1. In combination with a support for holding a stack of articles to be cut, a guide member against which the stack may be placed for alignment, suction means provided through the guide member for holding the stack in adjusted position against the guide, and means on the guide for adjusting the suction means in accordance with the heighth of the stack.

2,079,629. METHOD OF PREPARING TEXTILE PRINTS. Herbert Platt, Cumberland, Md., assignor to Celanese Corporation of America, a corporation of Delaware. No Drawing. Application January 6, 1934, Serial No. 705,568. 6 Claims. (Cl. 41—26.)

6. Process for the production of pattern effects on pile fabrics the pile of which contains cellulose acetate, which comprises printing a design on the pile ends only while the pile is erect, with a composition containing an effect material and a low viscosity cellulose acetate thickening agent in a medium containing a low-boiling solvent, a medium-boiling solvent and a plasticizer, all for the cellulose acetate in the pile of the fabric, the composition having a viscosity such that it will adhere to the ends of the pile without flowing to the bottom there of.

2,079,968. TYPE OR MATRIX CABINET. Samu-El Ish-Shalom and Otto I. Bloom, New York, N. Y. Application December 19, 1935, Serial No. 55,267. 6 Claims. (Cl. 276—44.)

1. A type cabinet arrangement consisting of a cabinet, a number of cases standing on edge therein and arranged in a horizontal plane, each of the cases being inclined at an angle of more than zero and less than ninety degrees from vertical.

2,080,127. DAMPENING ROLLER FOR LITHOGRAPHIC PRESSES. George G. Goedike, Chicago, Ill., assignor to Roberts & Porter, Inc., Chicago, Ill., a corporation of Illinois. Application August 22, 1935, Serial No. 37,273. 6 Claims. (Cl. 91—67.8.)

1. In combination with a printing roller, a knitted seamless cover therefor having a napped surface, the nap extending in a direction parallel to the rotational movement of the roller.

2,080,333. FONT OF TYPE. Overton W. Pendergast, Terre Haute, Ind. Application February 8, 1933, Serial No. 655,845. Renewed March 1, 1937. 9 Claims. (Cl. 101—399.)

1. As a new article of manufacture, a font of printing type sections, all of the same height from which sections various alphabetical characters all of the same height as the height of the sections may be composed by the arrangement of two or more of the type sections into a row or line of parallel sections arranged widthwise of the character, each of said sections having at least one printing face substantially like every other printing face making up the font.

2,079,243. MEANS FOR REGISTERING PRINTING PLATES. Leslie W. Claybourn, Milwaukee, Wis., assignor to C. B. Cottrell & Sons Company, Westerly, R. I., a corporation of Delaware. Application January 29, 1935, Serial No. 3,941. 8 Claims. (Cl. 33—184.5.)

1. The combination, in printing plate registering means, of a table on which to register the printing plates, a swinging frame comprising a protective rod swingable respectively above and below the level of the supporting surface of the table respectively for maintaining distance of the operator with relation to the table and for placing the protective rod in inoperative position and a supporting arm for the protective rod at each end thereof, one of the ends of the arms attached to the rod and the other ends of the arms pivoted to the first-named table, spring means between the swinging frame and the table to urge the protective bar toward the table, and a stop to limit approach of the swinging frame toward the table.

Plate Making:

2,078,535. MANUFACTURE OF RELIEF PRINTING FORMS. Max Hagedorn and Gerhard von Kujawa, Dessau in Anhalt, Germany, assignors to I. G. Farbenindustrie Aktiengesellschaft, Frankfort-on-the-Main, Germany, a corporation of Germany. Application August 16, 1933, Serial No. 685,454. In Germany August 20, 1932. 3 Claims. (Cl. 101—395.)

1. A relief printing form comprising the polymerization product of a vinyl compound.

2,079,310. MECHANISM FOR PRODUCING PRINTING PLATES BY ELECTRIC ARCS. Joseph A. Bennett, Bloomington, Ind., assignor of one-half to Joseph W. Piercy, Bloomington, Ind. Application October 31, 1933, Serial No. 696,096. 24 Claims. (Cl. 178—5.)

1. A method of forming a metal printing plate which consists in traversing a stylus across the face of the plate, in contact therewith, the metal plate and the stylus being in circuit with a source of current, causing the stylus to rapidly reciprocate against the face of the plate while it is traversing the plate, and varying the current passing into the stylus and across the gap to the plate in accordance with variations in the light and shade of a pattern.

2,079,870. PRINT BLOCK. Thomas Pesci, Raritan, N. J. Application May 28, 1936, Serial No. 82,196. 5 Claims. (Cl. 101—401.1.)

5. A print block for block printing machines, comprising a printing surface upon the block

5. A print block for block printing machines, comprising a printing surface upon the block, the printing surface having parallel kerfs formed therein, parallel scratch lines upon the surface and intersecting the kerfs, contrasting material upon the scratch lines for making the latter visible, and certain of the scratch lines located at spaced intervals having a relatively greater amount of the material thereon than the intervening scratch lines.

Printing Presses:

2,077,403. PRINTING PRESS FOR NEWSPAPER WORK. Maurice Eiseman, Washington, D. C. Application October 9, 1930, Serial No. 487,606. 19 Claims. (Cl. 270—5.)

1. In a printing press for printing newspapers, the combination with a former, of means cooperating therewith for forming a line of perforations in a printed web of paper as it passes along the former and in such portions of the web as will subsequently constitute the fold lines of the finished newspaper product of the printing press.

2,078,520. ADJUSTMENT MECHANISM FOR INKING APPARATUS. Otto R. Wolf, Oak Park, Ill., assignor to The Tribune Company, Chicago, Ill., a corporation of Illinois. Application May 18, 1935, Serial No. 22,184. 20 Claims. (Cl. 101—365.)

1. In an inking apparatus for printing presses, the combination of an ink fountain, a fountain roller, a plurality of scraper blades positioned to engage the roller for controlling the amount of ink thereon and arranged in substantially abutting relationship, a plurality of individual adjusting devices arranged to act on the blades at various points across their width, and collective adjustment devices each operable to adjust as a unit one of the blades while maintaining the blade under the adjustment provided by the individual adjusting devices.

2,078,628. PRINTING PRESS. Curtis S. Crafts, Oak Park, Ill., assignor to The Goss Printing Press Company, Chicago, Ill., a corporation of Illinois. Application February 1, 1935, Serial No. 4,477. 24 Claims. (Cl. 101—363.)

1. An inking mechanism including in combination an ink fountain and fountain roller, an ink receiving cylinder, a ductor roller moving between the fountain roller and cylinder, a compound cam having a plurality of cam members, gear connections for driving the cam from the inking mechanism, a helical gear fixed to rotate with one of the cam members, a second helical gear meshing with the first-mentioned helical gear, means for moving the second helical gear relativeiy to the first-mentioned helical gear to relatively position the cam members to vary the dwell of the ductor roller, and actuating connections from the cam to the ductor roller.

(Continued on Page 84)

Water Cooler

By W. C. VANDERWERTH*

Device made in printing plant keeps water at low temperature.

THE water-cooling problem comes up again in many plants to plague both management and employees. The method by which we solved this problem at small expense should be of interest, so I am passing it on. The shop machinist should be able to assemble this water cooler, or your plumber can do the work, at an expense of less than $6 for material.

We secured the coil of an old-style water heater from our local gas company for the asking. The keg in which we had been cooling our water was used as the "ice box" for the coil. The diagram shows how the supply pipe was connected at the top of the coil, and the outlet at the bottom.

The idea in constructing this cooler was to save expense, but it can be improved upon. The cooler was fastened on the wall near a sink and the overflow connected to it, thus saving the expense of another connection with the drain pipes.

The faucet which was on the keg extended well through the side to which we screwed an elbow. An upright pipe was attached to the elbow to serve as an overflow. When water reaches the height permitted, it runs off, saving trouble of watching the amount of liquid formed in the keg from melting ice.

The outlet, or bubbler, was reduced from the elbow to the opening about ¼ in. diam. We used a larger opening at first, but it caused the ice to melt faster by reason of a larger stream and more waste.

By having the overflow pipe up above the half way section in the keg, the accumulated water from melting ice and the ice itself will keep water cold for hours.

The outlet pipe is ½ in. size. The waste drain is ¾ in. pipe. An ordinary tin funnel catches the water for the overflow pipe drain.

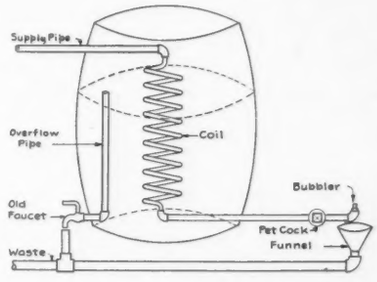

Diagram showing construction of water-cooling device, described by W. C. Vanderwerth, Job Foreman in the plant of the Eagle Printing Co., Bryan, Texas.

Note—The overflow pipe could be attached above the waste pipe to extend upwardly outside the keg with elbow and horizontal drain extending into the keg at the top of the pipe or the overflow level. In this way, the water-tight joint hazard caused by the pipe entering at the bottom of the keg could be eliminated.

*Job Foreman, Eagle Printing Co., Bryan, Tex.

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Set-off, Smear, Smut

By CHARLES MacARTHUR*

These presswork pests overcome by rapid drying inks on web-fed papers—Description of principles and equipment.

MEN engaged in the fields of letterpress printing cannot escape the conviction, that their process is being steadily pushed aside by the offset process in the sheet-fed printing field. In the web-fed field where it reigned supreme, the gravure process is challenging this supremacy; while in hundreds of broadcasting stations, crooners and comedians, singing salesmen and pleading peddlers, are taking in six and one-half millions of advertising dollars monthly—the same kind of dollars that buy papers, inks, rollers, plates and presses.

These apparent trends of printing and advertising dollars toward offset, gravure and the radio, do not pretend, of course, that letterpress printers will soon be singing psalms in the poorhouse, or this most adaptable of our three printing principles is on its way to the museum of useless arts. Anyone in a position to observe a recent development in high-grade, high-speed web-fed printing cannot fail to realize that the makers and users of letterpress materials and machines are aroused to action with respect to scientific research and sensible co-operation to remove or reduce letterpress handicaps, instead of each one seeking only self justification for his own particular material or machine when it is involved in printing difficulties.

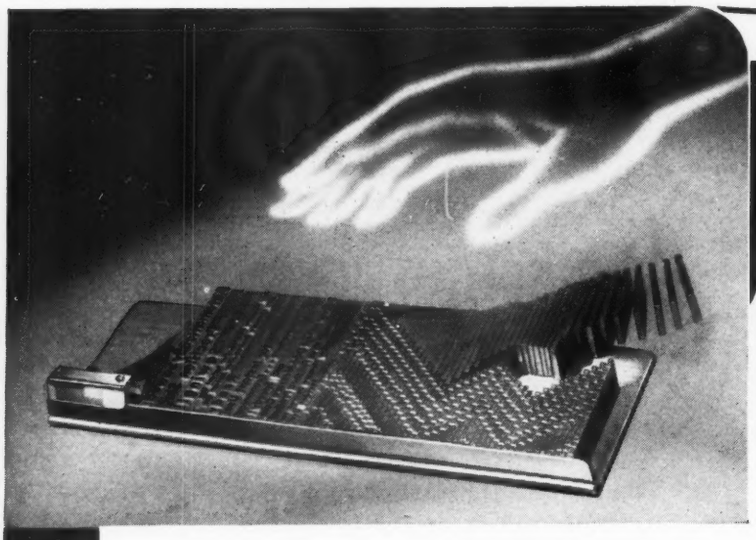
*Reynolds Metals Company, New York, N. Y. Abstract of paper presented before the Graphic Arts Technical Conference, New York, May, 1937.

Major Printing Handicaps

We may all agree that the major handicaps which hamper high-grade letterpress printing are the presswork pests: *Set-off*, *Smear*, *Smut and Makeready*, the so-called necessary nuisance.

To differentiate between offset printing, and offset from printing, the term *set-off* is used, since it sounds rather silly to say, part of this offset job is offset, or part of this letterpress or gravure job is offset. *Smear* denotes that wet ink has been rubbed by some object, while *Smut* indicates a blurring of the impression packing, smut sheet roll, or traveling tympan confined chiefly to web-fed and sheet-fed perfecting presses.

From the days when Gutenberg pressed ink on damp paper down through successive stages of hand-made, machine-finish, super-calendered and coated papers, the relief printing principle has been incessantly seeking the best way to prevent set-off, smear and smut of freshly printed inks. Strange as it may seem, press owners, paper makers, ink makers and press builders have each



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JUDGE the Mohr Lino-Saw of today by the standards of today. The culmination of many years' experience in building precision slug sawing equipment, the Mohr Lino-Saw of 1937 offers trouble-free performance, simplicity of operation, increased efficiency, lower maintenance costs. So, if your knowledge of the Mohr Lino-Saw is confined to older models, there's an interesting experience ahead when you investigate the improved new machine—especially in connection with the quadding and centering unit.

Translate these results into savings—in time, effort and costs. Picture these savings, if you will, applied to your own plant, to your particular type of work. Then, if it sounds like investigating further, we'll gladly supply full details.

MOHR LINO-SAW

Mohr Lino-Saw Company
126 North Union Avenue
Chicago, Illinois

in a great measure, considered it the other fellow's job to get rid of these presswork pests.

Ink Drying by Oxidation

Since the time men first pressed ink on paper or daubed paint on wood, nothing had been found more suitable as a vehicle and binding agent for ink and paint pigments than linseed oil, until a relatively short time ago. Its minor defect is a tendency to liver certain ink pigments. The fact that human ingenuity has failed to find a way to effect its rapid drying is its major defect.

The chemical composition of linseed oil has not yet been determined accurately. However, the fatty acids which impart to this oil its natural drying or oxidizing properties have been definitely identified. These acids slowly absorb oxygen from the air, resulting in a chemical conversion of the oil into a tough elastic film of linoxin. A film of oil 12/100,000 in. thick and which represents about the thickest film of ink which can be printed cleanly on the average coated papers, requires approximately fifty hours to dry naturally when spread on a hard surface. It was found, that the sluggish oxidizing action of the oil could be considerably accelerated by the addition of the organic salts of certain metals such as lead, manganese and cobalt—commonly called driers. The action of these metallic compounds is not clearly comprehended. The presumption is, they either function as catalysts, or merely act in the capacity of conveying oxygen to the oil.

The cobalt compounds are the most potent driers known to ink chemists, being four to five times more effective than lead or manganese compounds. However, it does not necessarily follow that because a certain percentage of cobalt will promote drying time of the oil to within several hours, a larger dose should correspondingly stimulate drying activity. On the contrary, an excess of drier, or the injudicious use of it, will not only impair the workability of the ink on the inking facilities but actually retard drying action on the stock, and perhaps destroy the adhesive property of the oil for the stock.

With respect to the drying-time factor, it is evident that drying ink by oxidation of its vehicular binder has well defined limits. Hence, it can be readily understood that in inks formulated for web-fed magazine printing, linseed oil can play only a minor part; while in newspaper printing it plays no part. In this case, the "Quick-Set" principle is utilized by employing an extremely fluid non-drying mineral oil to penetrate rapidly into the highly absorbent newsprint stock. A daily evidence of this "quick-set" principle carried to its ultimate degree, is the fact that one can almost make up for a black-face act from the free carbon on a late edition newspaper. Therefore, in compounding inks for high speed web-fed magazine printing, ink makers are compromising unceasingly between the ratios to use of slow-plodding oxidizing oils with their highly desirable printing and binding properties, and quick-setting penetrant oils with the resulting dull "dryback" and poor binding properties. Without doubt, ink makers have formulated and tried every conceivable combination of these oils in their endeavors to obtain clean, full-color printing on web-fed perfecting presses. But, despite the expense and the nuisance of a traveling tympan, and skinning down of the ink film to a gloomy gray print, the perfected magazine page is still plagued with smut.

Ink Drying by Evaporation

The invention of the rotary gravure process, by Karl Klietsch (Klic), showed the way to dry printed inks rapidly by employing a solid ink binder dissolved in a

(*Continued from Page 85*)

Exclusive

DIRECT HEAT

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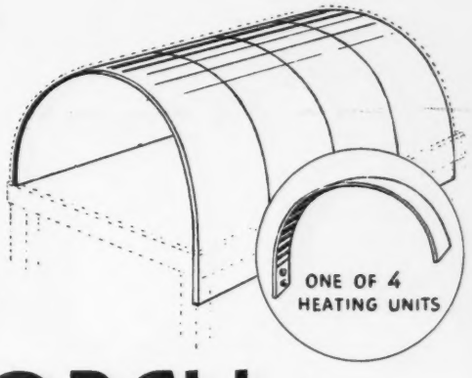

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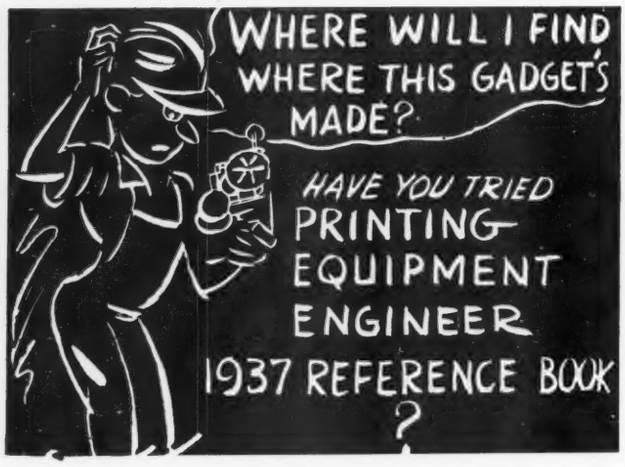

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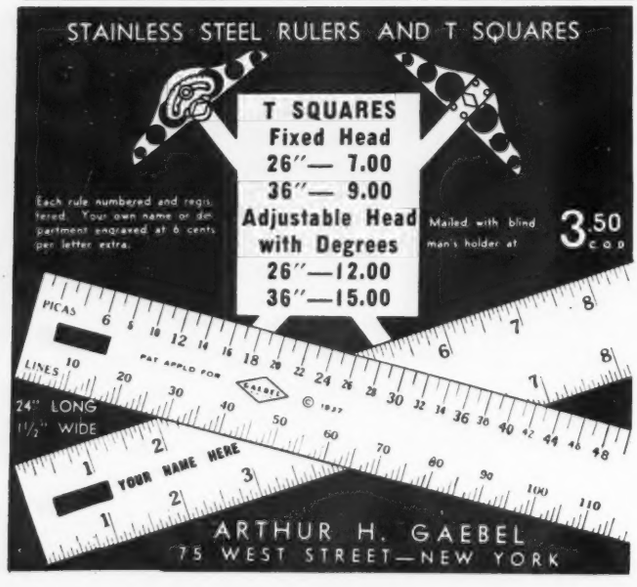

Patents

(*Continued from Page 80*)

2,078,751. HAND OPERATED PRINTING PRESS. Carl Edward Carlsen, New York, N. Y. Application December 7, 1936, Serial No. 114,585. 8 Claims. (Cl. 101—208.)

1. In a hand operated printing press, a stationary printing bed, a pair of spaced L-shaped arms in side alignment with each other pivotally mounted at their lower ends on the bed, a handle pivotally supported between the upper ends of the L-shaped arms, a type holding form pivotally depending from the handle at a point offset from the pivot support of the handle, an inverted U-shaped arm pivotally mounted at one end on the bed and having its other end horizontally extended and connected with the type holding form, an inking attachment mounted on the latter end of the U-shaped arm and cooperative with the handle and type holding form, and the U-shaped arm being inclined slightly from the vertical direction and away from the L-shaped arms.

2,079,001. PRINTING PRESS. Curtis S. Crafts, Oak Park, Ill., assignor to The Goss Printing Press Company, Chicago, Ill., a corporation of Illinois. Original application September 15, 1933, Serial No. 689,512. Divided and this application November 3, 1934, Serial No. 751,289. In Great Britain February 8, 1934. 12 Claims. (Cl. 101—247.)

10. In a printing press, in combination, a printing couple, a frame in which the cylinders of the couple are journaled, and means for variably positioning one cylinder relatively to the other including a complete eccentric in which the cylinder is journaled, ears on the eccentric, screw-threaded members on either side of the cylinder shaft and movable in opposite directions to angularly position the eccentric and movable in the same direction to press the eccentric against its bearing.

2,079,172. PLATEN PRINTING PRESS. Lawrence R. Johnson and Alexander Black, Cleveland, Ohio, assignors to The Chandler & Price Company, Cleveland, Ohio, a corporation of Ohio. Application February 28, 1934, Serial No. 713,290. 14 Claims. (Cl. 101—338.)

1. In a platen printing press, the combination with the ink disk of means for rotating the disk in a clockwise or counterclockwise direction, and means for changing at will the direction of rotation of the disk.

2,079,300. PRINTING PRESS FOR PRINTING ON REELS AND SIMILAR ROTATORY BODIES. Johannes Nunnikkhoven, Helmond, Netherlands, assignor to J. A. Carp's Garenfabrieken, N. V., Helmond, Netherlands, a corporation of the Netherlands. Application June 29, 1936, Serial No. 88,051. In the Netherlands July 2, 1935. 6 Claims. (Cl. 101—38.)

1. In a printing press for directly printing on reels and similar rotatory bodies with the aid of printing matrices, the combination of a continuously rotatable cylindrical carrier member, provided with a circumferential row of spaces for receiving the reels, the spaces each being bounded by a number of rotatable rollers for supporting freely rotatively on their longitudinal axis the reels to be passed under a printing device with the aid of the carrier member.

2,079,407. CARD FEEDING DEVICE. Heinrich Otto Hess, Winterthur, Switzerland, assignor to Actiengesellschaft Joh. Jacob Rieter & Cie., Winterthur, Switzerland. Application November 1, 1934, Serial No. 751,082. In Germany November 3, 1933. 4 Claims. (Cl. 19—105.)

1. In a machine, a first feed table, means to deliver the stock thereto, a first taker-in cooperating with the outlet end of the first feed table and comprising in combination means for blowing a portion of the stock and rotatable toothed means for tearing the stock entering the taker-in from the table, first and second chutes cooperating with the taker-in, grid bars forming a partition between the second chute and the rotatable member, means placing the chutes in communication, whereby air forced by the blowing means can pass from the first chute into the second chute at the side of the grid bars opposite to that facing the rotatable member, a second feed table arranged to receive stock from the first chute, a second taker-in comprising a rotatable toothed member arranged to receive materal from the second feed table, and other grid bars cooperating with the rotatable member of the second taker-in.

2,079,627. PRINTING PRESS. William J. Nightingale, Flint, Mich., assignor to Nightingale Printing Presses, Inc., Flint, Mich. Application January 29, 1934, Serial No. 708, 861. 83 Claims. (Cl. 101—193.)

1. In a printing machine, the combination with a reciprocatingly mounted platen and platen reciprocating means, of a plurality of reciprocatingly mounted chase carriers disposed in pairs, the chase carriers of each pair being in alinement and reciprocating in the same plane which plane is at right angles to the travel of platen recripocating means, the chase carriers being in cooperating relation to the platen at the inner end of their travel, a support with which the chase carriers coact when in printing position, means for successively actuating the chase carriers providing predetermined periods of rest when in printing position, platen actuating means synchronized with the actuation of each of the chase carriers, an inking means operatively associated with each chase carrier, and means for actuating the inking means when the chase carriers are in retracted position.

2,080,249. GRIPPER MECHANISM FOR PRINTING PRESSES. Howard M. Barber, Pawcatuck, Conn., assignor to C. B. Cottrell & Sons Company, Westerly, R. I., a corporation of Delaware. Application April 22, 1936, Serial No. 75,677. 14 Claims. (Cl. 101—409.)

1. A rotary sheet carrier, grippers carried thereby, a tumbler, a spring acting on the tumbler for holding the grippers open or closed, and means for separately exerting additional pressure on the grippers when closed.

2,080,260. PLATE CLAMP FOR PRINTING MACHINES. Fred J. Fuller, Los Angeles, Calif., assignor, by mesne assignments, to R. Hoe & Co., Inc., New York, N. Y., a corporation of New York. Application November 4, 1933, Serial No. 696,634. 19 Claims. (Cl. 101—378.)

1. The combination with a printing cylinder having a groove with lateral recesses in opposite sides thereof, of a plate clip having a body portion supported by the sides of the groove and arranged to slide in the groove, a head adapted to engage a plate, and a plurality of clip shoes, each secured to the body portion and fitted to extend across the groove and to slide in the recesses.

2,076,833. WEB PERFECTING ROTARY PRESS. Howard M. Barber, Pawcatuck, Conn., assignor to C. B. Cottrell & Sons Company, Westerly, R. I., a corporation of Delaware. Application August 10, 1935, Serial No. 35,586. 2 Claims. (Cl. 101—179.)

1. In a web perfecting rotary press, first and second multicolor printing units located in substantially the same horizontal plane in line with each other at opposite ends of the press, each printing unit comprising an impression cylinder and form cylinders arranged, in one unit around the upper side of their impression cylinder and in the other unit around the under side of their impression cylinder, first and second combined heating and cooling units located in one instance below its printing unit and in the other instance above its printing unit, each of the heating and cooling units comprising a heating cylinder and one or more cooling cylinders located between the heating cylinder and impression cylinder, a web supply roll, and means for leading the web through the units and directing the web in the desired direction.

Set-off, Smear, Smut

(*Continued from Page 83*)

highly volatile hydrocarbon solvent. Evaporation of the solvent restored the printed ink binder to its originally solid condition. Unfortunately, this simple and rapid ink drying method could not be adapted to the letterpress or offset processes owing to a lack of knowing how to stabilize such a solvent on the exposed inking facilities of these presses. Hence, this rapid ink drying method remained the exclusive property of the intaglio principle for over forty years.

The amazing and far-reaching changes brought about in the paint and lacquer industry by the use of nitrocellulose, synthetic resins, solvents, and plasticizers inspired ink chemists to explore this alluring field to ascertain if these rapid drying and good pigment-binding materials could be utilized in formulating high grade, high-speed drying inks. The problem of the ink chemist in adaptations to printing inks were infinitely more complex and difficult than those of the lacquer chemist, since a spray gun or paint brush hold little in common with temperamental inking rollers of printing presses.

After intensive research in the synthetic varnish field, the findings of a group of chemists were turned over to pressmen. Exhaustive printing tests were conducted to determine their workability, printability and practicability. Then cooperative research with paper makers, roller makers, press engineers and finally with heat appliance engineers to determine the relative efficiencies of various vaporizing systems and their operating costs. Step by step, set-off, smear, and smut were conquered by combining research with actual practice. Today, well printed webs of paper carrying full strength colors are traveling through successive printing couples and down through folders or into rewinds at speeds never before attained without a trace of those presswork pests and minus traveling tympans.

Vaporin Components and System

Expressed in simple terms, the principal components of Vaporin ink are a solid resin which acts as the binding agent for the ink pigments; a high boiling solvent to dissolve the resin into a varnish and to insure the stability of the ink on the inking facilities at normal pressroom temperatures. The resin in the printed ink film is restored to its former solid state when the solvent is converted into a vapor by heat treatment. Unlike the varnish of the normal letterpress and offset inks which is chemically converted by oxidation into a hard dry film, Vaporin varnish undergoes a physical reaction in its rehardening or so-called drying process. Hence, the speed at which a printed Vaporin ink film can be dried is determined essentially by the rapidity in which the solvent can be removed from the resin.

The vaporizing system comprises essentially a premixture of air and gas in the ratio of 4.6 to 1, respectively, applied under approximately half-pound pressure through cup-shaped ceramic burners to the printed side of the web. These burners are arranged in staggered formation to insure a uniform application of the flames to the web and rotatably mounted so that the flames are rotated to and from the web when the press starts and stops. This

(*Continued on Page 88*)

To be Continued

Model "F"

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New Addition

By STAFF WRITER

Green Bay (Wis.) PRESS GAZETTE *to have enlarged and finely equipped plant.*

CONTRACTS were let recently by the Green Bay (Wis.) *Press-Gazette* for an expansion program that will include an addition to the building, a new press, an engraving plant, photo studio and dark room, and enlargement of all present departments. The present plant, erected in 1924, and considered at that time adequate for many years to come, can no longer turn out papers fast enough.

To meet present demands and anticipated growth, the *Press-Gazette* has ordered one of the most modern metropolitan presses in the middle west. It will have a capacity of 80 pages, and a printing speed up to 40 pages, of 36,000 papers an hour.

THREE-STORY ADDITION

As in any newspaper plant, the building must center around the press; hence a new addition will be erected, extending approximately 50 feet north from the present structure, and increasing its size about one-third. The exterior finish will be of terra cotta, of the same color and design as the existing building.

It will house the new press, a new mailing room, which will be fitted with new mailing equipment, and a new carriers' room, replacing the present carriers' room in the basement. The carriers' room will have a separate entrance on the west side of the building. Conveyors will carry the papers from the press to the mailing tables and the carriers' window.

THE NEW PRESS

The press, now being constructed by the Duplex-Printing Press Company, will consist of five 16-page printing units and a folder. Almost any combination of sections is possible, and color equipment can be added if there is sufficient demand for it.

Mounted on a heavy concrete foundation separate from the foundation of the building, in order to minimize vibration, the press will extend from the basement almost to the ceiling of the first floor. The huge rolls of paper will be fed from beneath, where they can be rolled into place direct from storage. The drive will be through two 100 h.p. motors, operated by remote control from twenty stations about the press. Control equipment is being manufactured by the Cutler-Hammer Company.

SECOND-FLOOR STEREO DEPT.

The second floor of the addition will contain an enlarged stereotyping department, including a new metal pot which will hold seven tons of molten type metal, keept liquid by Kemp gas immersion heaters. This pot will be nearly three times as large as the present pot. Provision will be made for later installation of faster and more modern matrix-making equipment.

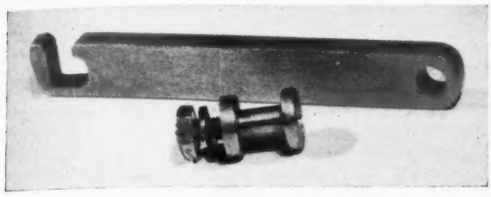
Different from the rest of the building, the addition will be three stories in height. The third story, covering two-thirds of the roof of the addition, will house a modern photoengraving plant, photographic studio, and dark rooms. It will be readily accessible from the composing room, and also by a stairway from outside.

THE LOADING PLATFORM

At the north end of the addition, will be erected a loading platform from which a fleet of trucks will deliver the paper. This platform will extend almost

An Assembling Elevator Lever Link

This assembling elevator lever link carries a quickly detachable connection at the lower extremity of the link. It was designed by Jas. F. Hubbard, Chief Composing Room Machinist of the Boston Herald-Traveler. *The link itself is steel and measures ¼ in. thick, ½ in. wide and is 3⅞ in. long. Neither of the bearing surfaces of the link are threaded. The top hole (shown at the right in the picture) is ¼ in. diam. for reception of a shoulder screw having ¼ in. straight shank. The usual 8-32*



thread hole in the outer surface of the assembling elevator is enlarged with a ¼ in. drill to accommodate the upper bearing screw for the link.

The special shoulder screw, with lock nut and washer, screws into the assembling elevator lever from the left. A ¼ in. link bearing surface is provided between the flanges which are spaced ⅜ in. apart. The slotted opening in the lower part of the link is ¼ in.

When it is desired to disconnect the elevator lever from the assembling elevator the pressure is reversed on the operating lever until the horizontal slot in the link is in line with the screw stud.

The substantially proportioned link, according to Mr. Hubbard, has three features: (1) The loose sidewise fitting provides vertical alignment of lever, link and elevator and prevents any cramping action while a matrix line is being raised to the delivery slide; (2) it is easily disconnectable, and (3) application of the link preserves the balance of the assembling elevator.

P.S.—Oil the assembling elevator link, lever and gate bearings once a month—carefully. Clock oil may be used sparingly on the gate bearings.

the entire width of the addition, leaving ample turning space, and will be 9 ft. wide, completely enclosed. It will have five loading stalls, each fitted with garage doors for protection during the winter months.

Larger Composing Room

On the second floor, the editorial department's space will be enlarged; a sound-proof room will be provided for the Associated Press and United Press teletypes, and special provision will be made for the society and club and sport departments, the library and "morgue."

The composing room will be enlarged and equipped for more rapid production. One additional Model 8 linotype already has been installed.

ALLEN TO TALK

John E. Allen, editor of The *Linotype News*, will talk on "Modern Trends in Newspaper Makeup," at the golden jubilee convention of the Oregon Newspaper Publishers' Association, at La Grande, Ore., June 18, and at the convention of the Washington Press Association at Pullman, Wash., June 25.

Mr. Allen recently talked on makeup at the convention of the Connecticut Editorial Association at Waterbury, Conn., and at a journalism short course at the University of Minnesota.

The New York *Times*, which, last summer, added a Forty-two Pica Super-Display Model 28 Linotype with a self-quadder, a Mohr Lino-Saw, a Margach metal feeder, and eleven main and five auxiliary magazines and many fonts of display matrices, has installed another Forty-two Pica Linotype, making thirty Linotypes now operated by that paper.

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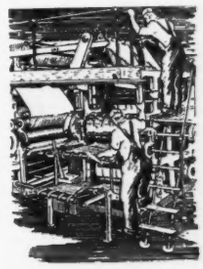

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Set-off, Smear, Smut

(*Continued from Page 85*)

provision is to avoid igniting the non-traveling web. The flames are automatically reduced to a minimum when removed from operating position. A vapor exhaust removes the vaporous solvent. Cooling drums are employed to recool the resin and the web.

It is obvious that in applying heat to a printed ink film to vaporize its solvent content, the resin is also heated. Hot resin is extremely tacky and will adhere to and accumulate on the surface of a drum or idler brought into tensional contact therewith. Therefore, it is just as important to re-cool the resin as it is to expel the solvent therefrom, but at the proper time. Otherwise, should the resin be chilled too quickly it will trap under its frozen crust any remaining unvaporized solvent and also tend to condense back on the print the adjacent vapors already arising from the ink film, with the result that ink drying is retarded and perhaps indefinitely checked.

The intensity and volume of heat application necessary for a given condition is determined by press speed, insulating property of the stock and the area and layers of superimposed ink films. A simple method was found to calculate the heat required to insure ink drying regardless of press speed and the other stated conditions by raising the temperature of the web's surface to approximately 250 deg. F. These readings to be taken on the web at the outlet of the heating chamber. The instrument employed to determine web temperature is a specially designed Surface Pyrometer.

Ault Elected President

Bromwell Ault has been elected president of the International Printing Ink Corporation, according to an announcement by du Val R. Goldthwaite, newly-elected chairman of the Board of Interchemical Corporation and president of International Printing Ink since 1932.

This statement came at the time of the organization of IPI's parent company, Interchemical Corporation. Mr. Goldthwaite explained that the company's program of fundamental research has broadened the firm's interests and made desirable a name more descriptive of its varied operations in the chemical field.

While Interchemical's activities extend into fields outside the Graphic Arts, the manufacture and sale of printing inks still represent the major portion of the Corporation's business. The marketing of IPI's printing inks will be carried on as before under the old name and trademark. No policy changes involving this subsidiary are contemplated.

H. A. Smith, R. W. Smith, and U. G. Frondorf will continue as vice presidents of IPI. Other officers in the company's divisional organization will be announced soon.

OSWALD NOW PRESIDENT

At the annual election of The National Arts Club, New York, on May 19, officers were chosen as follows: President, John Clyde Oswald; 1st Vice-President, J. Frederick Talcott; 2nd Vice-President, Dan Everett Waid; 3rd Vice-President, Edmund Greacen; Treasurer, Rodney Wilcox Jones; Assistant Treasurer, Ora A. Taylor; Secretary, W. Wellington Massee.

John Clyde Oswald is the fifth president of The National Arts Club to be elected since its organization in 1898. He has been Club Secretary since 1919.

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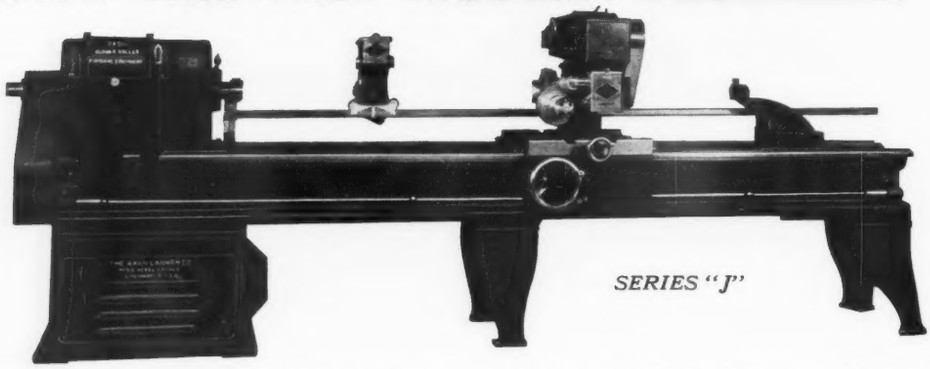

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CECIL RUBBER ROLLER FINISHING MACHINES

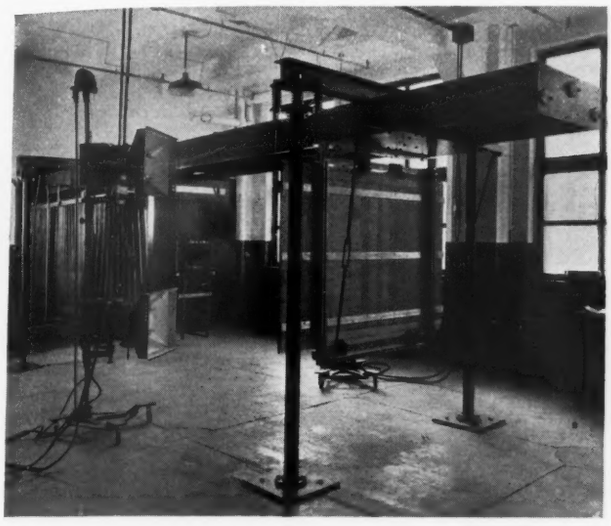
Giant Camera

By STAFF WRITER

Camera weighs 1½ tons and is fitted with a 55 in. diam. screen.

THE installation of one of the largest lithographic cameras in the world, was completed recently by the Brown Lithographic Company, a division of the Brown-Superior Printing Corporation, New York, N. Y.

This camera, weighing 3000 lbs., was designed, manufactured and installed by the Wesel Manufacturing Company of Scranton, Penna. with the plate frame walled within the dark room. One of the important



View of giant camera in plant of Brown Lithographic Company, New York. Adam Henry Reiser, well known to readers of *Printing* EQUIPMENT *Engineer*, is in charge.

features is the use of a mammoth circular screen 150 lines to the inch, 55 in. diam., which makes possible color separation or halftones of large copy without patching. The screen is made of two selected pieces of perfect glass, each being crosshatched with 8250 lines, 1-300th part of an inch in width, and all being the same in depth. The glasses are bound together with the crosshatching at right angles to each other, and placed in a rotary holder in the camera within the dark room and is arranged so that it can be moved in and out of the focal plane without removal from the camera.

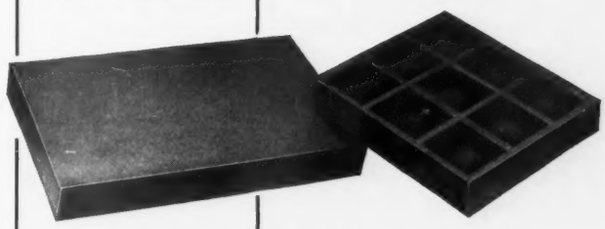
The general copy lens is a "Goerz," 47½ in. focal length, with Iris diaphragm and waterhouse slot.

A special lens can be mounted for making large blow-ups to increase the adaptability of the equipment. to Camera dimensions and interesting facts relative it are listed as follows: Copyboard 48 in. by 72 in., Width of Camera at end of back box, including wings, approximately 15 ft.; Width at copyboard 9 ft.; Height; approximately 8 ft. 7 in.; Length, approximately 25 ft. overall; Maximum halftone plate with full screen coverage, approximately 39 in. by 39 in.; Weight, excluding screen, approximately 3000 lbs.

The camera is of the overhead type, with spring suspension, stationary backbox, moveable lensboard dark room control; for horizontal and vertical movement. The lensboard propels and expels from dark room through a series of worm, worm nut and bevel gears to the crank handle.

The word is

NO LOST MINUTES "SPEED"



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CHICAGO, 17-19 E. Austin Ave. 200 Hudson St., NEW YORK

International Association of Printing House Craftsmen

Provisions are made for the frame, that carries the copyboard, to utilize negatives for the making of positives. The arrangement is manually adjusted to compensate any size plate negative.

Heat-treated chrome leather was used in the making of the large bellows, suspended on ball-bearings, attached to the bellows frames, allowing the bellows to move freely.

Double Deck Twin Ave. Hot Spot Eliminator Gelb Lights make short exposures possible for quality and speed in color separation and commercial work. Negative and Positive retouching, stripping and proving are carried on in one section, while the photo-composing machine, vacuum frame, and whirler for coating and making press plates are separately housed in separate rooms to increase the quality of production.

The pressroom is separated from the plate departments to cut down the noise and confusion. Paper is conditioned with one of the latest paper seasoners to insure quality in registration. Automatic-feed type, single and two-color Miehle and Harris presses are operated.

The offset department is headed by Adam Henry Reiser as Superintendent who is well known to our readers, he having contributed to *Printing* Equipment *Engineer* for some time.

PMC MOVES CHICAGO OFFICE

The Chicago office of The Printing Machinery Company has been moved to 1962 Transportation Building, 608 South Dearborn St. Sidney S. Bird is the manager in charge.

NEW CLEVELAND PLANT

Ralph H. Bazold is the manager in charge of the new Cleveland plant of the Sinclair & Valentine Company which was opened recently. The plant is located at 2202 Superior Ave. The Cleveland plant will make and distribute a full line of lithographic and letter-press inks.

AIR EXPRESS GAINS

Air express shipments for March, 1937, exceeded the total for the corresponding month of 1936 by 46.21 per cent, Railway Express Agency announced recently.

FUTURA oblique bold

A new slant on FUTURA, oblique bold, opening new possibilities in composition for the enterprising compositor. A new and forceful angle for the modern eye. The specimens of FUTURA BOOK, the ideal text weight, are now also available upon your request.

Bauer Type Foundry, Inc · 235 E. 45th St., New York

Correlating Operations

By HARRY T. MURPHY*

Control regulations in multiple-shift newspaper composing rooms are employed to smooth out work flow and eliminate lost motion.

WHILE it is true many morning and evening newspapers are not published from the same plant in which the identical equipment is used to produce both papers, yet many newspaper composing rooms are operated on a two-shift and in some cases a three-shift basis. Naturally, there is much unfinished work at the end of each shift which must be completed by the succeeding shift. The uncompleted work may consist of advertising composition in various stages of completion, proofs as yet unprinted, unread proofs, incompletely marked-up copy and so on.

It should be an objective of the superintendent of the composing room to provide regulations for the guidance of the key men to correlate the work between the two shifts. The condition of the work at the termination of the night shift, for instance, should be such that the day force can pick up the continuity with the least possible time spent in finding the stage of progress on all the work in the department.

Composing room operation, as everybody knows, is a complicated process, but there need be no difficulty in smooth work flow if these operations are carried out systematically and in such a way that the succeeding shift in multiple-shift plants can carry on without the lost motion present when one or more operations have been omitted from the proper sequence.

Harry T. Murphy has instruction sheet for guidance of key men on both shifts of his composing room.

*Superintendent Composing Room, The *Register* and *Tribune*, Des Moines, Iowa.

COST CUTTER SAWS ● COST CUTTER SAWS

You are cordially invited to visit the COST CUTTER SAW EXHIBIT during the A. N. P. A. Conference, June 7, 8, and 9, at the Drake Hotel, Chicago, Illinois.

C. B. NELSON & COMPANY

720 SOUTH DEARBORN STREET, CHICAGO

COST CUTTER SAWS ● COST CUTTER SAWS

The composing room of the Des Moines *Register* and *Tribune* is a "double-header" plant. It is necessary that all operations be carried on in such manner that each of the two working forces can function as one unit rather than as two separate and independent organizations.

The writer feels that perhaps other composing room executives will be interested in one or more of the correlative regulations for handling the work in our composing room. It is admitted, owing to variable conditions, that a certain rule vital to our operation might not be essential to the operation of another plant operating under similar conditions in another part of the country. This situation is peculiar to newspaper production. I won't attempt to explain it here.

The following paragraphs represent the regulations in effect in our plant and we have found them to be of great value. Most of them were brought about by experiencing production difficulties. Others were created because it was apparent that their adoption would mean improved work flow. The complete list of regulations, however, were not created overnight, but have been adopted from time to time as the need for them arose.

Schedule of Regulations

Due to the fact that copy and type are left over from one shift to another in the plant of the *Register* and *Tribune* each shift should be able to carry on where the other shift leaves off. Things should be done by both forces in identical manner. These operations include markup, setting the machine type, dumping the machine type and assembling the ads.

The following should be carried through as near as possible on both the day and night shifts:

As soon as an ad or proof is placed on the ad desk it should be marked up and run out on the machines. All markup *must* be done with blue pencil, so as not to confuse the operator with the advertiser marks, as he may have black pencil marks on the ads.

On each sheet of copy (in the lower right-hand corner) in blue pencil mark the name of advertiser and the size of ad, day ad runs and the markup's name.

The desk man in passing out ads to be marked up should give them to the ad man who is most capable of handling that particular type of ad. All markup should be done by the printers familiar with general advertising copy. Those printers not so familiar are to be used on corrections and assembling of ads.

Keep all tracers on ad desk and give them out to the printers who are assembling the ads. It is not necessary to have just one man to do all the marking. If we receive a number of ads at a time pass them around and when they are finished have the men who did the marking assemble the ads. After the ads are marked and the machine matter has been set it shouldn't take very long to assemble an ad.

Keep all proofs marked up and sent to the machines at all times. Do not leave them over for the night side if copy comes in during the day and the night side must see that all copy is marked for the dayside. See that the proofs do not pile up on the dump but keep them corrected and read up.

Day desk man should make every effort to get all ads and proofs for the next morning's *Register* set and corrected. Night desk man *must* have all ads and proofs for the following day's *Tribune* office OK at the end of the shift.

We now handle the bulk of Roto, Syndicate and other house organs (where enamel proofs are needed) on the dayside. To do this effectively we should have the printer working on frame No. 3 assemble, proof and correct all sort of copy. This will be put in a central place, where editors, salesmen and artists can go to find out about a certain piece of copy. This will eliminate everyone going to the desk man to inquire about a certain piece of copy. As soon as it is set and assembled, take one dupe, one proof for editor and one proof for proofreader. Proofreader must read immediately. This takes care of all of this sort of copy.

Galleys should be placed on the ad dump so that the type for each ad may be dumped in the proper place. These galleys must be labeled with the name of advertiser. (If small ads, a number may be placed on one galley.) If we have more than one ad for an advertiser the galley should be labeled, for instance, "Sears X," "Sears XX," "Sears XXX" and the copy marked the same in the lower right-hand corner.

Layout must stay in tracer unless copy is written on the layout.

If ad man is held up on the ad he is working on for the want of copy off the machine or cuts from the stereotype department, he should be given another ad to work on (or proofs) until same is available. If this is done, all standing time should be eliminated. It will not do

MARGACH MANUFACTURING CO., Inc.

in new and larger quarters

82 Beekman St., N. Y. C.

THE AUTOMATIC FEEDER

FOR LINOTYPE, INTERTYPE, LUDLOW, ELROD AND MONOTYPE MACHINES

Lino Slug Routers, Magazine Racks, Rouse Band Saws, Rouse Power Mitering Machines, C & G Saws, and a complete line of Composing Room Equipment

any harm for a printer to have three or more small ads on his frame at a time.

Have the printer working on frame No. 3 cut all machine type as it is dumped as he is nearest to the Rouse band saw. He can stop the Roto from time to time to do this job. Also cut the proof type as it is dumped and roll these proofs up where it is possible.

The desk man should be able to tell where an ad is at all times; in other words, he must follow through and see that the ads are moving.

Ad operators should ring everything on the copy they have set, so that the next operator who receives it knows where to start at a glance.

After all copy is marked up it should be handed to the desk man who runs it out on the machine hooks. We now have a rush hook for all rush proofs and ads. Do not permit later copy to be deposited on this hook. It would be a good idea if we instructed the operators to work from north to south on the hooks and the copy run on these hooks as the desk man wishes his ads to run out. The last hook is to be used as "time copy only."

Ad proofreaders should be sure the "office proof" of all ads are put in the various tracers. In case the office proof is OK do not send it out to the advertiser but have another proof taken so that we may at all times have the "office proof" to check from and to see who set the ad, as it may have been listed wrong or the layout may not have been followed.

When business is heavy and several compositors are waiting to get to the proof press, have one man pull all the proofs waiting until traffic is cleared.

Monday morning should be a good day to clean out the roto, syndicate promotion ads, etc. I am sure we can get the co-operation of these various departments in helping us get rid of the dead type. The day-side should file all phat ads.

Turn a list of all ads that come to the office after the deadline. If an ad has to be sent out to the advertiser during the night leave a note so the advertising department may know of this.

Be courteous to all advertisers and salesmen with whom you may have contact. If one of the boys from the dispatch room asks for information about a cut, or a standing ad, give it to him. He is just carrying out his orders. Sometimes the promotion department may be a bit trying and want you to push something ahead for them. Let them know if it can be done—if not let them know that also. We must favor the paid advertisers first. But occasionally the promotion department has a rush job that is wanted by the circulation department and in this event the promotion department should let us know if it is late coming in.

Further up in this epistle a mention should have been made as to the marking of mats sent to the stereotype room. The mat should be marked as the printer wants it cut. If a mortise is wanted, draw the mortise on the face of mat and mark "mortise." All cuts coming to the composing room will be cut square unless marked otherwise, so care must be made in marking them. Put advertiser's name on back of each mat.

If both shifts follow through this schedule, we should increase production and everyone should be able to pick up where the other left off.

Hoe Sound Picture

The new Hoe sound picture, "Going to Press," made its bow at the A.N.P.A. Convention in New York. During four days, hundreds of interested persons viewed this detailed word and picture story of the making of the modern newspaper. The scenes of the Arched-Type Super-Production Press were taken at the plant of the Charlotte (N.C) *Observer*, while the Philadelphia *Record* provided views of the Vertical-Type Super-Production Press at work. Interesting close-ups of these two types of presses are shown, all the filming having been done under actual working conditions. The Hoe Super-Production Folder was filmed in both plants from a number of angles,

An interesting feature of the film is the step-by-step showing of the complete paster operation, which supplies a continuous web of newsprint with Hoe Reels, Full-Automatic Electric Tensions and Full-Speed Pasters. Slow motion animation illustrates how the paster operation is performed at the full speed of the press.

At the close of the A.N.P.A. Convention at the Waldorf-Astoria, "Going to Press" moved up to Canada where it was featured during the Canadian Convention. Following the S.N.P.A. Convention and the A.N.P.A. Mechanical Conference in Chicago, the new sound film will probably "go on the road" for showings before interested groups throughout the country.

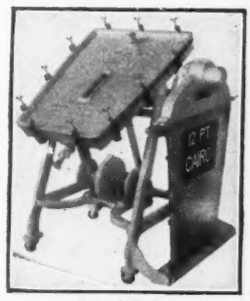
Inquiries and requests for showings of "Going to Press" should be addressed to R. Hoe & Co., Inc., General Offices, New York, N. Y.

IN NEW LOCATION

Chas. S. Martz, general manager, Aurora School of Photoengraving, Aurora, Mo., has announced removal of his organization into a new building. Over 20,000 sq. ft. of floor space is now being used.

"Klean-O-Mat" Marches On

Today this strictly modern method of cleaning magazines and matrices without running out the "mats" has won laurels **aplenty.** Its performance in plants of every kind and size adds much to efficient operation. Plan to visit a "KLEAN-O-MAT" equipped shop soon. You will be amazed at the results obtained from the operation of magazines and mats that are **really clean.**



Model G

Klean-o-Mat TRADE MARK PROCESS

U. S. Patents
1,804,331
1,890,374

Pictured at the left is one of 4 "KLEAN - O - MAT" Models. For more than 2 years the "KLEAN-O-MAT" Process has serviced the 1,000 magazines and over 1,740,000 matrices of the World's largest printing plant —the U. S. Government Printing Office.

There is no plant too large or too small — (whether it be in the Newspaper, Job Printing or Trade Composition Field) —to do without the many benefits which "KLEAN-O-MAT" will provide. **Every** Composing Room Executive owes it to himself to investigate without delay.

Following are some of the prominent "KLEAN-O-MAT" installations made recently— (names of other users nearest you will be supplied upon request) :

World Telegram	New York, N. Y.
News and Observer	Raleigh, N. C.
Times	Bayonne, N. J.
News-Sentinel	Fort Wayne, Ind.
Post-Tribune	Gary, Ind.
Republican-American	Waterbury, Conn.
John C. Meyer & Son (Comp. Plant)	Philadelphia, Pa.
John F. O'Sullivan (Comp. Plant)	New York, N. Y.
Daily Messenger	Homestead, Pa.
Herald	Titusville, Pa.
News-Index	Evanston, Ill.
Journal	Jamestown, N. Y.
Mirror	Altoona, Pa.

NOTE: The Jamestown and Altoona were late models which replaced earlier equipment.

•

An interesting Comparative Cost Analysis and Proposal is available to those who write and tell us how many line-casting machines are used, number of magazines— (full size and splits) —number of operators employed per 24 hours and wage scale. No obligation—so do it today.

•

National Printing Appliance Corp.

82 Beaver St. **New York, U. S. A.**

Abstract of Report

By STAFF WRITER

Manager Wines makes report in which he records functions of Mechanical Department.

PRINTED below is an abstract of the report made by Mechanical Department Manager W. E. Wines to the American Newspaper Publishers Association. In this report, attention is called to the expected report by Committee Chairman Burns which will be presented to the 1937 Chicago Conference. Last year a committee was appointed to recommend standard colors for four-color newspaper printing.

Manager Wines announces the starting of a study of the quality of wrapper used on paper rolls, particularly as to its ability to withstand abrasion or chafing during transit. It appears some samples of wrapper have more than forty times the ability of other samples to withstand chafing.

In part, the report is as follows:

During the year just closed your Mechanical Department has continued to function effectively and constructively. Perhaps the most spectacular item of record was the surprising increase in attendance at the Annual Mechanical Conference. From a modest beginning with an attendance of 82 in 1927, registration increased to 581 at the Tenth Conference at Chicago last June. Incidentally, the number of commercial exhibits last year exceeded all previous records. In this connection it is in order to say that all these exhibitors have come voluntarily. Exhibits are not solicited by the Mechanical Department, and the Association has no pecuniary interest in the rental of space.

Eleventh Mechanical Conference

Plans for the program for this year's conference are rapidly nearing completion. There will be three morning sessions and two afternoon sessions. The evening meetings have been discontinued for this year.

The opening session will be devoted to lighting, heating, ventilation and air conditioning. Specialists on these subjects have been secured as speakers. The other four sessions will cover composing room, photo-engraving, pressroom and stereotyping room. Special stress will be laid upon color advertising and photo-engraving because of the present widespread interest in these subjects.

The program has been planned to include a list of carefully selected topics to be discussed from the floor, with fewer prepared or set speeches.

An exhibit of run-of-paper color printing is being assembled. Members doing this class of advertising are urged to send samples to the Mechanical Department. There is no limit to the number of samples each office may submit, and the hotel has space for a large exhibit. We hope to have also a display of retouched photographic copy.

Standard Colors

A committee was appointed at last year's Conference to recommend standard colors (red, yellow and blue) for four-color newspaper printing. This committee has made recommendations which have been accepted by the American Association of Advertising Agencies and the Association of National Advertisers. The formal report of the committee will be made to the Chicago Conference by its chairman, A. H. Burns, mechanical superintendent, New York *Herald-Tribune*.

Mechanical Bulletins

The Department's output of bulletins during the last year exceeded in number of bulletins, number of pages, and variety of subjects that of any preceding year. Among these were a new survey of page sizes and paper roll widths, and another covering faces and sizes of body and classified types. The bulletin entitled "Printing Experiments," carrying a reprint of a paper by Philip H. Prior, an English paper mill chemist, attracted much favorable comment.

A bulletin which is probably unique carried a report on the printing practices of 32 British newspapers. This report was an outgrowth of the exhibit of foreign newspapers at the 1936 Conference.

The Mechanical Bulletins have received much attention among advertising agencies, manufacturing and supply companies and others serving the newspaper business.

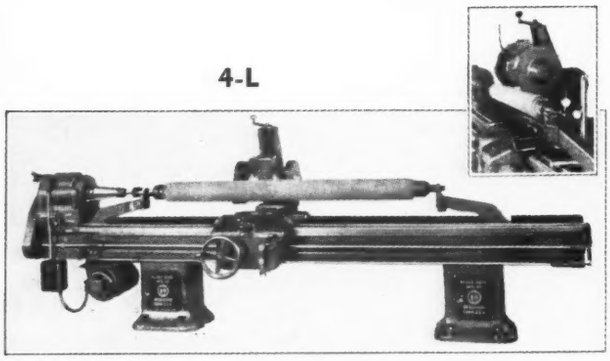
Newsprint Waste

The quarterly reports on newsprint waste have appeared regularly and will continue to appear. Although many offices have reduced this item to a figure beyond which no further improvement seems possible, the figures from some offices which report regularly are susceptible of reduction. Monthly reports are received from only about

Use BLACK ROCK EQUIPMENT

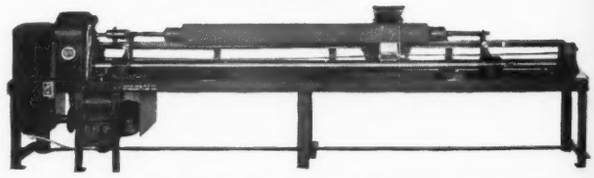
To Accurately Grind and Polish Rollers

4-L



This 4-L Grinder is used by many leading newspapers handling rollers specified for leading presses, including gravure and lithograph rollers. Roller ground at any point from top to back permitting user to grind straight or with crown due to natural sag. Standard attachments for ball bearing rollers. Capacity of 3 to 12-inch diameter and a length from 1 to 9 feet between roller bearings. Consumes 4 h.p. Occupies a floor space of 4 feet by 13 feet 8 inches. Maximum height, 5 feet 4 inches. Sturdily built —does accurate clean-cut work.

4-R-M



This 4-R-M Roller Polisher shown above is designed to rapidly and accurately polish rubber rollers coming within specifications given by leading pressmakers. It eliminates laborious, inaccurate hand polishing and maintains dimensions relative to those produced on our grinder. Capacity, 2 to 12 inches. Length between bearings from 0 to 9'8". Consumes 2 h.p. Floor space 2'2"x13'6". Maximum height, 4 feet 4 inches.

That the equipment as shown above is of the highest standard for grinding and polishing printers' rubber rollers is borne out by the fact that practically all manufacturers of rubber rollers use this equipment in their own plants where the highest standards must be maintained.

This equipment may be seen in operation at the Chicago Daily News during the Mechanical Conference. Mr. G. L. Hammond will be at the Drake Hotel.

BLACK ROCK MANUFACTURING CO.

177 Osborn Street — Bridgeport, Conn.

one-third of the membership. What the conditions are in the plants of the other two-thirds is not known. The reasonable inference is that possibly one-half of our member offices could reduce this item of expense by giving it more attention. Constant vigilance is required to keep paper waste at a minimum. For this reason and in the hope that more members will submit figures regularly, the quarterly reports will be continued.

In this connection, the Mechanical and Traffic Departments have recently started, in cooperation with the Newspring Service Bureau and The New York Central Railroad, a study of the quality of wrapper used on paper rolls, particularly as to its ability to withstand abrasion or chafing during transit. Tests made by the New York Central demonstrate that some samples of wrapper have more than forty times the ability of other samples to withstand chafing. Why this is so no one appears to know, and this investigation has been undertaken in the hope of discovering the reason.

New Devices

The customary effort has been made to learn of new devices and methods which may have an application to newspaper printing. There has been very little of this material for publication during the last year. A few new things are being watched and, if they give sufficient promise, will be reported in the Bulletins.

Inquiries

The Department continues to answer to the best of its ability specific inquiries from member offices on a wide variety of subjects and problems. Members are urged to make greater use of these facilities and are again reminded that the Department, through its acquaintances and correspondents here and abroad, has sources of information not easily available to most publishers. No time or effort is spared in the attempt to find the answers to these questions. A single letter covering one or two pages may represent the work of several days. That this service is appreciated by those who have used it is proved by numerous commendatory letters. One publisher states that one letter saved him more than $700.

ANNOUNCEMENT

The Eagle Printing Ink Co., Division of General Printing Ink Corporation, announces it has acquired all sales rights and representation in the East for the gloss inks introduced by the American Printing Ink Company, Division of General Printing Ink Corporation. Manufacture will be based on the original formula and same standards, and will be sold under the registered name of Eagloss.

PRESIDENT BEST REPORTS

At the annual meeting held in Alexandria, Va., on May 6, President Harvey D. Best of the Lanston Monotype Machine Co., submitted his report to the stockholders.

All subsidiaries contributed to net profit which, before taxes, depreciation, patent amortization, inventory adjustments, etc., is $621,313.94 for the fiscal year ended February 28, 1937. This is an increase over the previous year of $163,224.46. Taxes paid and reserves for Federal and State Taxes amount to $115,855.87, an increase of $24,985.63. After reserves for depreciation, amortization, inventory adjustments and possible losses arising from fluctuations in foreign currencies, net profit for the year is $239,565.31.

During the year an addition to the main building was constructed to add 3850 sq. ft. to the ground floor and the six-story fireproof vault space was doubled in capacity.

During the year $184,000 was expended for machinery, tools, jigs, fixtures and development of new products.

SALES OFFICE IN DALLAS

To provide better service facilities for its customers in the Southwestern territory, Cutler-Hammer, Inc., Milwaukee has opened a new sales office in Dallas, Texas.

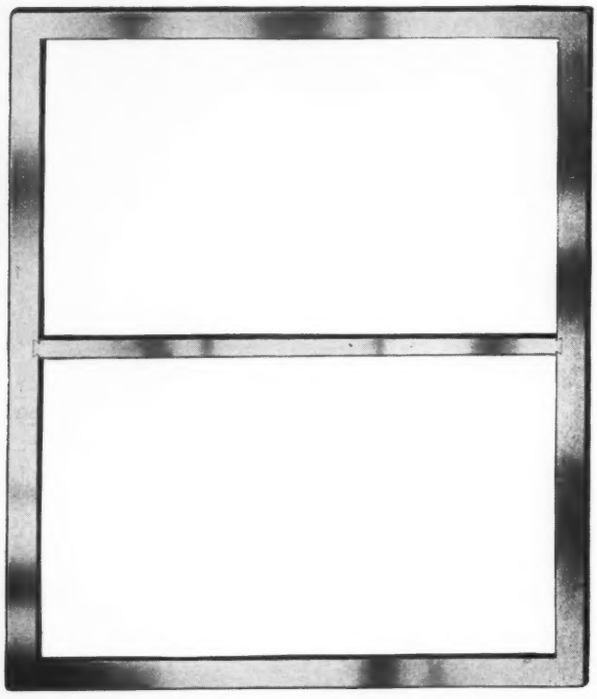
Located at 624 Santa Fe Building, the new office will handle the sales of the complete Cutler-Hammer line of electric control apparatus, including magnetic clutches and brakes, magnets, valve control, safety switches and service equipment. A stock of standard apparatus will be carried in Dallas.

HOWARD KING IN DEMAND

Howard King, Typographic Counselor of Intertype Corporation, will speak before four craftsmen's clubs in the middle-west in June, as follows: Milwaukee, Thursday, June 10; Minneapolis, Wednesday, June 16; Duluth-Superior, Thursday, June 17; Southern Minnesota, Friday, June 18.

On May 21, Mr. King addressed the Cleveland Club of Printing House Craftsmen on "Dramatized Typography." In Springfield, Mass., on the next day, he discussed "Creation and Design in Typography."

STEEL CHASES



ELECTRIC WELDED
OF
SILVER BRIGHT STEEL

Chases made for all style presses. Regular sizes in stock. Special chases can be supplied promptly.

Sandblom Steel Chase Company
426 So. Clinton Street
Chicago, Illinois

Take Slugs

By CARLETON BERRY*

System in use at Columbus (O.) Dispatch composing room conserves production energy.

THE Columbus (O.) *Dispatch* want ad or liner department, like that of many metropolitan papers, is broken down into classifications for convenience of the reader. There is nothing particularly new about the idea, but the handling of this kind of composition on a daily newspaper presents a production problem in the way of inserting each advertisement under its proper classification. The conservation of production time at peak moments is an important consideration, too.

At the *Dispatch*, I. E. Tessier, composing room superintendent is using a method which eliminates the setting of special guide lines for each of the many small want ads used in that paper. The use of some kind of system is vital to efficient production when on some days the setting of 150 to 200 guide lines by individual operators is so much waste production. Besides, there is the liability of guide lines being inserted in the form along with the advertisement if precautions are not taken to prevent it.

Take slugs are 1 em wider (13 ems) than the actual column of the *Dispatch* which is 12 ems. The reasons for making the slugs 13 ems in length are: (1) It is impossible for them to be made up in the paper, and (2) the extra length makes it easy for the bank man to flip them from the galley before sending it to the makeup. These slugs are saved and replaced in a special case made for the purpose. The large size classification figures on the take slugs permit the makeup to classify each want ad accurately.

12-C—
MEN who are familiar with city, earnings of $25 to $30 weekly; salary and commission. The Hills Cab Co., 171 N. 4th-St.

13—
CARDI SCHOOL OF BEAUTY CULTURE. 3rd and State, Hartman Bldg. AD-7761

15-C—
IF YOU DON'T find a position you want advertised in these columns, insert an advertisement of your own under the "Situation Wanted" heading.

17—
FOR GOOD values in used cars see classification No. 90 in today's Dispatch. All prices, some as low as $50.

Each take of want ads is accompanied by the proper take slug when picked up by the machine operator.

The makeup in charge of classified section sorts out want ad copy and groups each individual kind. In this case, one 13-em take slug will suffice for a take of six, eight or twelve liners which will appear in the paper under one classification, although very often one number slug will take care of as many as one column of want ads.

Market tables are handled in a similar manner. A corresponding numbered slug accompanies each sheet of market copy. While market tables are running, operators do not deliver their takes to news dump. An apprentice messenger delivers each sheet to operator with slug number and picks up the newly composed slugs from a previous delivery and takes them to the dump for proofing. This system has been found very efficient and a great time-saver.

*Foreman Composing Room, Columbus (O.) *Dispatch*.

REAL PRINTERS' ROLLERS—that work and stand up on any kind of printing press

GODFREY PRINTERS ROLLERS

GODFREY ROLLER COMPANY

211-13-15 North Camac Street, Philadelphia, Penna.

William P. Squibb, *President*

MANHATTAN RUBBER ROLLERS FOR NEWSPAPERS AND LITHOGRAPHERS

EDES PHOTO-ENGRAVING

EDES SUPERFINE QUALITY ZINC

ZINC

THE STANDARD FOR MORE THAN 80 YEARS

THERE IS A LOT OF "KNOW HOW"

THE EDES MANUFACTURING CO., PLYMOUTH, MASS.

Stocks Carried by the Following Representatives

John H. Heimbuecher Metals Co., 514 No. Third St., St. Louis, Mo.
Gazzolo Drug and Chemical Co., 119 So. Green St., Chicago, Ill.
E. H. Walker Supply Co., Printcraft Bldg., Washington, D. C.
Selby Mohr, 883 Mission St., San Francisco, Cal.
C. S. Illingworth, 49 Springville Avenue, Buffalo, New York
Thompson-Hayward Chemical Co., 2228 Blake St., Denver, Colo.
Thompson-Hayward Chemical Co., 909 2nd St. So., Minneapolis, Minn.
Metzger Photo Supply Co., 1091 So. Main St., Akron, Ohio
G. C. Dom Supply Co., 125 East Pearl St., Cincinnati, Ohio

Supreme Arc Lighting Efficiency . . .

The **35** *Ampere*

"HELI-O-LITE"

for both
CAMERA WORK
AND
PRINTING FRAME USE

Here is the HIGHEST QUALITY Open Flame Photographic Arc Lamp in the low priced field. It is only one model of a full range of Pease "Heli-O-Lite" Arc Lamps available in a variety of styles and amperage capacities for every lighting requirement in connection with either Camera Work or Printing Frame use.

Write today for a copy of Pease 40 page Arc Lamp Catalog and learn exactly how Pease "Heli-O-Lites" can serve you with unusual satisfaction and with lowest possible operating costs.

THE C. F. PEASE COMPANY
838 North Franklin Street, Chicago, Ill.

"HELI-O-LITE"
WHITE FLAME OPEN ARC LAMPS

Color Gravure

(Continued from Page 74)

vertising agencies and the amount of color advertising increases accordingly.

In another case I have before me Sunday supplements whose covers are particularly good and all made and enlarged from 4 by 5 Dufaycolors. Very excellent work is being done in colors on cellophane and on metal. The cellophane should present greater difficulties than printing on paper, due to its flimsiness and stretch, yet most of it is perfect in register in four or more colors.

Possibly the answer is in the size of the presses used to-day. For newspapers and magazines they seem to want them bigger; for cellophane, labels, wrappers and the like, just the reverse. When you consider that a gravure layout is all on one piece of metal with no possibility of lifting any part of it and that this is all etched in from twenty to forty minutes, the difference in producing, even in monotone, a huge cylinder of 48 full magazine pages and a comparatively very small cylinder of a few labels, is self evident. Then multiply that by three or four and you wonder again at some of the excellent work being produced.

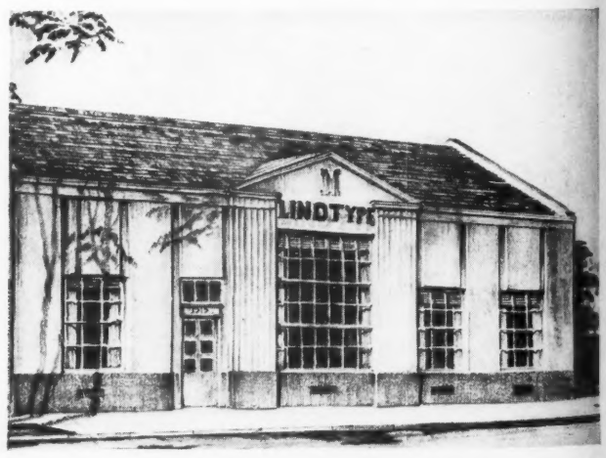
It's just a question whether the smaller presses, two or three of them, wouldn't be more economical in the long run than one large one, to produce the same job, to say nothing of the difference in quality and register.

New Building

For MLCo in Los Angeles

The Mergenthaler Linotype Company announced that its recently completed building at 1515 Georgia Street, Los Angeles, was officially opened on May 10. The new building is centrally located for the chief business section of Los Angeles.

Present at the official opening were Harry L. Gage, vice president in charge of sales, from Brooklyn headquarters; Harry W. Porte of San



Francisco, manager of the company's Pacific Coast agency, and Paul E. Gallagher, manager of the Los Angeles office.

In the new building, a one-story structure of steel, concrete and stucco, are modernly appointed demonstration and conference rooms, a well stocked parts and supplies department and a fully equipped machine shop. On display are the latest Blue Streak Linotypes, including a four-magazine mixer with the one-turn shift, a six-mold disk, and a self-quadder and fixed indention mechanism.

Stokers

(*Continued from Page 70*)

pound, instead of 12,500. But, we have to go several big jumps beyond that; for we cannot assume that all the BTUs in the coal are going to be found in the metal. Not by a long shot. Things do not work out that way—not in real life. You get less out than you put in. If you put 1,000 BTUs into the furnace of a steam boiler, you will probably get out 500 or less. If you put 1000 into a steam engine, you will probably fare a lot worse yet. Here, in the case of the melting job, it is considered fair to cut the 12,000 BTUs of 1 pound of coal to 4,000. The other 8,000 are dissipated—that is, lost—in several ways. Some of them go into the walls and bottom of the cast iron melting pot, 1½ in. thick. Some go up the stack. Some pass off from the surface of the molten metal. At any rate, they do not go into the metal itself. You get this kind of a loss, whatever you use for heating—gas, oil or coal.

If we are going to rate 1 pound of coal as really supplying 4,000 BTUs, then 1 ton (2,000 lbs.) must be rated at 8,000,000 BTUs. This is a good able-bodied figure, though nothing like those being spoken of at Washington, D. C. Recall, now, that the 4½ tons of metal are going to absorb the heat from 112½ pounds of coal in getting up to working temperature. Every pound of this 112½ pounds will transfer 4,000 BTUs into the metal—altogether, 450,000 BTUs.

Really, nobody cares how many BTUs and how many pounds of coal are required; but everybody cares how much the cost is going to be. Let us get at this. We may assume 1 ton of average No. 1 Buckwheat anthracite coal, will cost, say, $8.00. This means $0.004 a pound. Multiply this by 112½, the number of pounds, and you will have $0.45 for the whole job. That is to say, we can heat 4½ tons of stereotype metal up to working temperature for 45 cents, insofar as fuel is concerned. As 4½ tons of metal are 9,000 pounds, we may easily calculate that the coal cost per 1,000 pounds of metal is 5 cents. You can use this figure for your case, the correction needed being in consequence of the price and BTU content of coal in your locality.

Just a word now to put things into shape where you can readily apply the foregoing to your particular case.

Since 4½ tons (9,000 lbs.) of metal require 450,000 BTUs, 1,000 pounds will demand 50,000 BTUs. To ascertain the cost for 1,000 pounds of metal, accordingly, all we have to do is to find the cost of the heat units. If the coal dealer is supplied with BTU figures for the coal it is proposed to use, well and good. If not, and the quality is known to be really good, then rate anthracite at 12,500 BTUs per pound or soft at 13,500. Whether you get figures from the dealer or use these, knock off 500 as a starter. Then divide by 3, and take the result as the final figure. You call up a dealer and get the figure as 13,250, say. Knock off 500 and get 12,750. Divide this by 3 and get 4,250 BTUs as the real heat you will get for your money. Suppose, now, you are going to pay $8.50 for 2,000 pounds of the coal. Since 1 pound produces 4,250 BTUs, 2000 pounds will yield 4250 times 2000 or 8,500,000 BTUs. And these 8,500,000 will cost $8.50. That is 1000 BTUs will cost $0.001, and 50,000 will cost $0.05. This is the fuel expense per 1000 pounds of metal.

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The answer is to use **FLEX** dry mats, which cost no more than most other dry mats, and in this way improve your printing plates and your printing. Send for free samples and see for yourself. Please specify gauge, shrink, number of casts per mat, and type of casting equipment used. Address Flexideal Dry Mat Company, 21 West Street, New York.

There is something additional, though it does not amount to much. The stoker has to be power operated and this requires current. It is estimated that the stoker burning 30 pounds of coal per hour will require 150 watts per hour. The number of hours for the 4½ tons (9000 lbs.) of metal was, the reader may remember, regarded as varying between 3½ and 4. Let us take the average, 3¾ hours. At 150 watts per hour, we will get 562.5 watt hours for the total. As this takes care of 9000 pounds of metal, 1000 pounds of metal will require 62.5 watt hours of current. Dividing by 1000, we get the kilowatt hours—0.0625. If the current costs $0.03 per kwh, then the total current cost will be $0.001875. We are now ready to sum up the total expense:

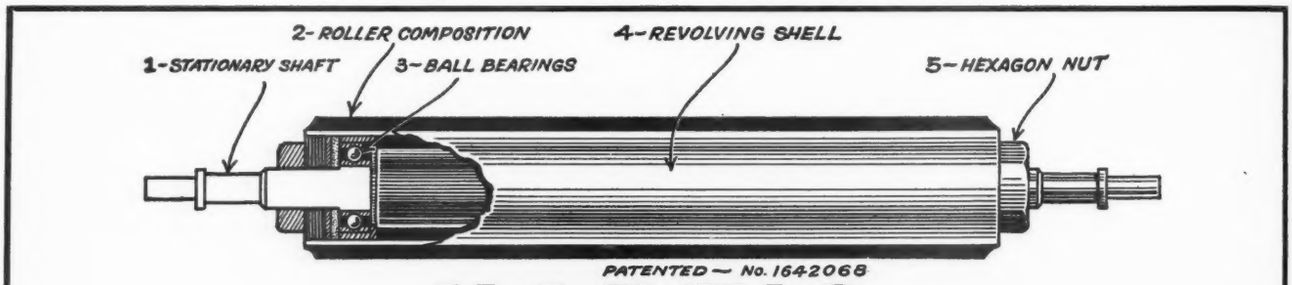
Total Operating Cost for 1,000 Pounds of Metal

Coal	$0.05
Electric Current	0.001875
Total	$0.0519 for short

TOTAL OPERATING COST FOR 1,000 POUNDS OF METAL

If it is desired to compare with this the cost of operation when city gas is employed, a similar procedure may be adopted in carrying out the calculation. We find out the BTU content of 1 cubic foot of gas from the gas company or otherwise. Perhaps, 550 BTUs per cubic foot is suitable enough to illustrate the matter. As gas is sold by the 1000 feet, we may base further computations on the BTU content of this amount. It is 550,000 BTUs. Just as we did with coal, we knock off something—say, 4 per cent—and divide the remainder by 3. We will get 176,000 BTUs as the amount available from 1000 cubic feet of gas. When we ascertain the cost of these 176,000 by finding out the price of gas, we can complete our calculation by computing the cost of 50,000 BTUs. We will then have the expense of heating up 1000 pounds of metal. Naturally, there will be no motors to run and no current to buy.

THE CORE WITH THE STATIONARY SHAFT



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The New York News—the world's largest newspaper—printed at the world's fastest speeds—uses Hart's Ball Bearing Roller Cores on all its new, high speed, Goss presses. This should be evidence that these roller cores fulfill a definite and vital need in the production of quality printing at high speeds. ***When ordering new presses—specify HART cores.***

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The question of using oil can be handled along the same lines. If unable to settle on just what oil, a good guess would be No. 2 fuel oil.

Automatic Stokers

Where stokers are to be employed, completely automatic or partially automatic machines are the thing. With fully automatic installations, the coal is taken from the coal bin and delivered to the stoker by an automatic conveying device. The automatic feeding device, forming part and parcel of the stoker, picks up the coal and delivers it to the fire, the coal approaching the fire from below, in the case of the celebrated underfeed type (made by numerous manufacturers). Ashes are picked up by a self-operating device and carried to the ash can and delivered to it. The entire movement of the fuel from the bin to the ash can is entirely automatic. When a partially automatic system is employed, the bin-feeding device may be omitted and the coal delivered by hand to a hopper forming part of the stoker. The ash handling may also be a hand managed job.

In the melting of type and stereotype metal, it is necessary to control the temperature, as the metal "burns" at such temperatures as 750 deg. F. A pyrometer, stationary or portable, may be employed for the service.

Stokers Come in Various Styles

The concerns named in the beginning of this article as using stokers for the melting of metals employed in printing plants have installations of *underfeed* machines. In fact, they all use one particular variety. As a matter of fact, there are some 108 manufacturers of small stokers. Probably the majority of the types are of the underfeed design. This class has proved itself during the last score of years in doing the work of public utilities and big factories. There can be hardly any question of the value of the underfeed idea. It goes back more than 100 years. I do not say that the world has had underfeed stokers for so long a period; but the idea of feeding coal from underneath the fire is at least that old. A great advantage of the modern underfeed stoker of standard type is that the new coal is about as hot as the fire when finally it becomes a part of that fire. They are built to burn anthracite or soft coal. Here again, the reader is to be put on his guard. I do not mean that one and the same machine accepts equally well soft or anthracite coals. There are two classes, the division being based on the method of feeding the coal. A plunger is employed in the one class and a screw in the other. The plunger pushes or thrusts the coal forward in the one kind, while the screw rotating in a tube carries the coal forward in the spiral valley between threads in the other type.

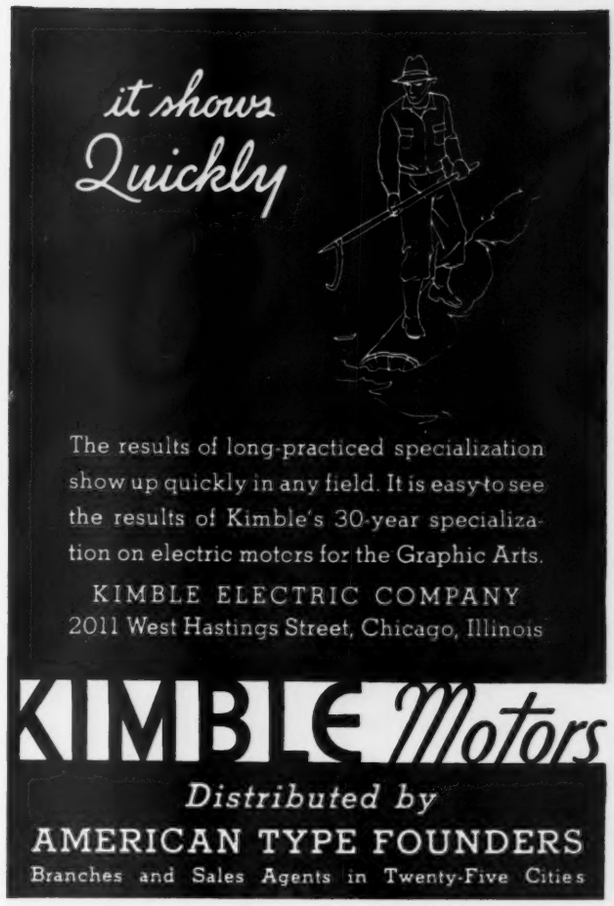
There are still other types of stokers on the market, and it is to be remembered that printing plants require heating in the winter time. And this is a stoker job, as well as a metal melting operation.

WILLIAMS WITH INTERTYPE

Manager Chadwick of the Southern branch of Intertype Corporation, announces the appointment of Orrin Williams to the position of office manager at Southern headquarters in New Orleans. Mr. Williams is a practical printer and publisher with several years' experience, most of which was acquired in Alabama. He formerly was editor and business manager of the Rockford *Chronicle* and Goodwater *Enterprise*, the only two papers published in Coosa County, Alabama.

KELLY INKS USED

The Rex Paper Company is sending to the trade a four-sheet folder demonstrating the company's folding enamel. Kelly Wotta Non-Scratch and color process inks were used in the printing of this mailing piece.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- CHAMPION HALFTONE — A non-scratch dense black which will not offset. Can be backed up in two hours.
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•

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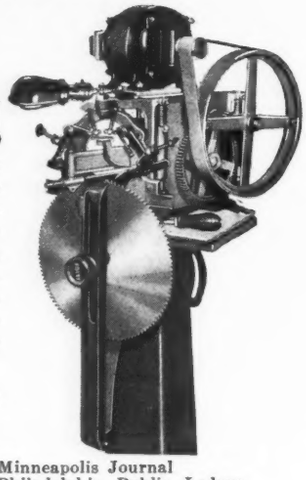

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Scoring Paper Stock

(*Continued from Page 42*)

When first using this method of scoring there may be a tendency to make the score too shallow or too narrow.

This round-faced scoring method compresses the fibers to a certain extent and distends a small portion of the sheet to give a nicely rounded back when folded.

String and Rule Scoring

This method is accomplished by setting in the form two two-point rounded steel rules parallel with a two-point lead between them or two-point beveled rules without the lead between.

An impression is pulled and a piece of string pasted on the tympan between the two line impressions. The sheet to be scored should be fed so that the side which will be the outer side of the finished fold will be next to the tympan. Fold scored sheets so that the outside of the fold will be the side that has been depressed by the string.

Fig. 3—It is important that the folding be done after scoring so that the *outside* of the fold will be the side that has been depressed by the scoring operation. The diagram illustrates this important feature. It shows how the distended portion of the scored paper is on the inside of the fold, so it will not act as a fulcrum to break the outside surface fibres.

Scoring While Printing

This method is probably the least expensive and is recommended only on light weights when the score and fold are *with* the grain direction. The work may be done on either a job or cylinder press by running a round-faced scoring rule with the printing form and building up the packing where the rule strikes the tympan. A slight ink mark, of course, will be left on the finished job, but this is not always an objection, especially on two-color jobs if the rule prints in a light second color of ink along with that color form.

Other Scoring Methods

Several ingenious job press scoring rules have been devised that are automatically depressed below the surface of the form when it is being inked and then return to a scoring position. Thus scoring-while-printing is accomplished without ink marks on the finished sheet.

Press scoring wheels have also been perfected for use on small automatic and large cylinder presses. The wheels are placed near the gripper edge of the feed board and score the sheet as it is delivered from the cylinder. This method can only be used when the scoring is in the same direction as the rotation of the cylinder.

Satisfactory folds, on lighter weight papers, can be made with the grain on bindery folding machines without scoring.

ACQUIRES ENSIGN-REYNOLDS

American Gas Products Corporation, a subsidiary of American Radiator & Standard Sanitary Corporation, has purchased from Consolidated Edison Company the Ensign-Reynolds, Inc., manufacturers of industrial gas equipment. American Gas Products Corporation is now prepared to serve industrial companies with various types of industrial gas burning equipment such as Gas Filters, Ribbon Burners, Inspirators, Air Cleaners, Flame Distributors, Gas Compressors, and special burner tips used in the printing and other industries.

Equipment-Supplies

(Continued from Page 69)

a total of 75 as against a possible 100. The strikethrough can be measured by moving the instrument over the spot where the strikethrough occurs. Normally, ordinary strikethrough will show eight points off color of the paper. Halftones are measured by sliding the instrument to the highest highlight, and an average halftone will read approximately 80. If its blacks are solid it will read the same as type, or 15. This gives a contrast of 65 on a good halftone."

View of Arthur H. Gaebel's Newspaper Contrast Meter which reduces to universal factors the quality of paper surface, contrast of halftones, distribution of ink, strike through and ink penetration.

New Gloss Cover Method

A NEW process for treating cover stock, combining color with a high gloss, is used in the May issue of the *Du Pont Magazine*. The process has been developed through the introduction of a soluble dye into clear paper lacquer. The solution is applied by roller coating after the printing operation has been completed. Lacquer has been used for some time as a glossy paper finish, applied over the printing, but in a neutral and transparent form.

In two previous issues of the magazine, the process was tried out with satisfactory results using a single dye. The May cover, having passed the experimental stage, marks the first successful effort in which colors were mixed to secure the desired shade, thus extending the range of colors available through the mixture of dyes. In the May issue, scarlet was cut back with gold to produce a luminous rose tint.

Standard engravings were made and the cover printed in black and white on a plain uncoated paper. The dyed lacquer was then applied, imparting an all-over color, shaded with the darker undertones on the engraving and a high gloss. An illusion of greater depth was obtained.

Materials used were Du Pont Gloss Paper Lacquer and Du Pont Luxol Soluble Dye. The dye is not pigmented and is soluble in alcohol, a constituent of the lacquer. The solution remains clear and transparent.

Covers coated in this manner are said to be unaffected by contact with water; ink, dirt or grease can be wiped off readily. It is also said the cover will not show white upon abrasion. See illustration, page 58.

For better, speedier MACHINE COMPOSITION

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Dixon's Daily Mold Lubricant—handy, giant-size stick at no extra cost. Keeps mold clean and lubricated. Also rub on wipers, crucible mouthpieces or on slug slots to eliminate sticking slugs. Dixon's Kwic-Klean Matrix Reference Rubber—a specially developed eraser for quickly cleaning and brightening reference marks on matrices. Handy shape—edges and corners stay sharp. At Printers' Supply Houses or write

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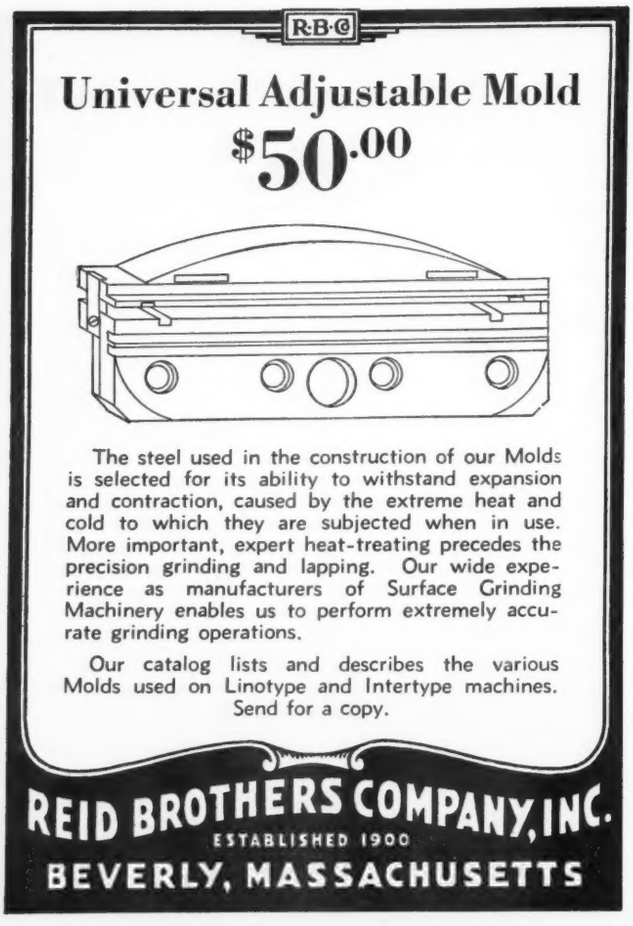
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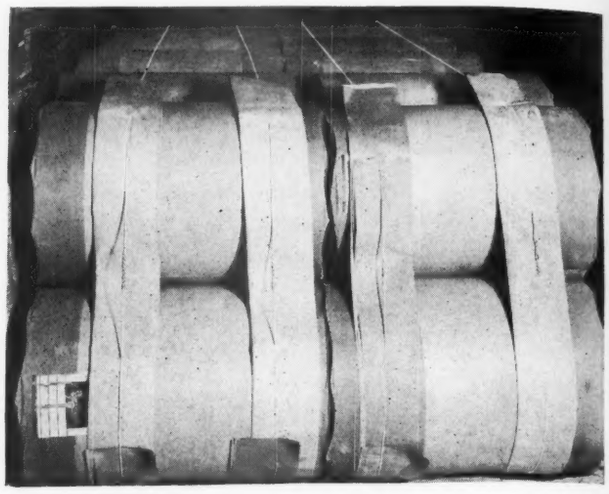
The steel used in the construction of our Molds is selected for its ability to withstand expansion and contraction, caused by the extreme heat and cold to which they are subjected when in use. More important, expert heat-treating precedes the precision grinding and lapping. Our wide experience as manufacturers of Surface Grinding Machinery enables us to perform extremely accurate grinding operations.
Our catalog lists and describes the various Molds used on Linotype and Intertype machines. Send for a copy.
REID BROTHERS COMPANY, INC.
ESTABLISHED 1900
BEVERLY, MASSACHUSETTS

Gerrard Uni-Lastic Stowage Method

Of interest to the printing and publishing industry is the announcement by The Gerrard Company, Inc., of the Model G Wire Strapping Machine, called the G Model, which is used for stowing presses or other heavy printing machinery, newsprint rolls, coated paper on skids and strawboard rolls in freight cars. When paper stock is stowed in freight cars and fastened by means of



View of newsprint rolls ready for shipment in freight car, laid in horizontal position and fastened by means of Gerrard stowage method of carloading to prevent the rolls shifting position or being damaged en route to destination. Newsprint rolls may be loaded on end if preferred.

Gerrard Round Wire Strapping, the stock so fastened immovably in the car is prevented from shifting position or becoming damaged in transit.

The G Model wire tying machine used for fastening paper stock in the car, weighs about 25 lbs. Tensioning, sealing and cutting off the wire is performed in a smooth continuous movement. The G Model applied to carloading also is used to reinforce crates and packages of weighty or bulky character and ties from 11 gauge to 8 gauge high tensile wire straps or metal ties.

Further information may be obtained from the Gerrard Company direct or through *Printing* EQUIPMENT *Engineer.*

P-Double-E File No. 7E.

Eliminates Wire Side

According to a recent issue of *Newspaper News*, which is published in Sydney, Australia, the making of papers with two top sides has been developed.

The article which appeared in *Newspaper News* in part is as follows:

> No. 9 machine is a duplex, or two-wire machine; that is to say, it has two wet ends running in opposite directions and the two sheets from these wet ends are united at the press rolls, and the duplex sheet thus formed is dried on a common set of drying cylinders.
>
> The advantage of such a machine over an ordinary Fourdrinier machine is that the wire sides of the two sheets come together at the combining press and the finished sheet has, to use an Irishism, a top side on both the top and wire sides of the sheet.
>
> It will be readily appreciated that papers made in this way must have an added value to the printer, since it is possible to obtain equally good printing results on both sides of the sheet.
>
> A further advantage will be that the pressman will not need to alter his ink control for heavier flow on wrong sides, as there will be no wrong sides, and he knows that color will stay put throughout the run.

What Is It?—VII

(*Continued from Page 60*)

tion of the following description have been employed.

The first method makes use of a black lacquer which is sprayed over the locked-up composition. When this is fully dry, a roller with white ink is passed over the characters. This will show the lettering white on a dark background. When properly photographed, a positive is produced, which may be used for the deep-etch or reversal process.

In the second method, a white paint is sprayed over the locked-up form and the characters rolled up in black ink. The negative of this form, upon being photographed, may be used for albumen prints on either originals or press-plates.

Enlargements made from photoengravers' proofs supply lithography with a considerable amount of work today. Needless to say, these black and white proofs are used as originals, no retouching being necessary on either the negative or the press-plate.

Two machines for the creation of lettering have been described in other issues of *Printing* Equipment *Engineer*. When these function properly, it is said there will be no further need for typo proofs for photographic purposes in lithography.

Multi-Color Work

Colors used in sketching cause many headaches in the reproductive processes. This is especially true when a limited range of colors is prescribed by the customer. In four-color reproduction, extreme care should be taken in sketching. It is generally agreed by many authorities that a clear water color will yield the best reproduction.

Just to keep the records straight, it may be wise at this point to give the position of the lithographic artist in the newer photo-lithography. Formerly, he created the image. Now, however, the picture is already formed for him by the camera. His work now lies in correcting the image on the photographic plate so that the printing process will reproduce the sketch more faithfully. He does this by reducing or increasing the dot formation on either the positive or negative.

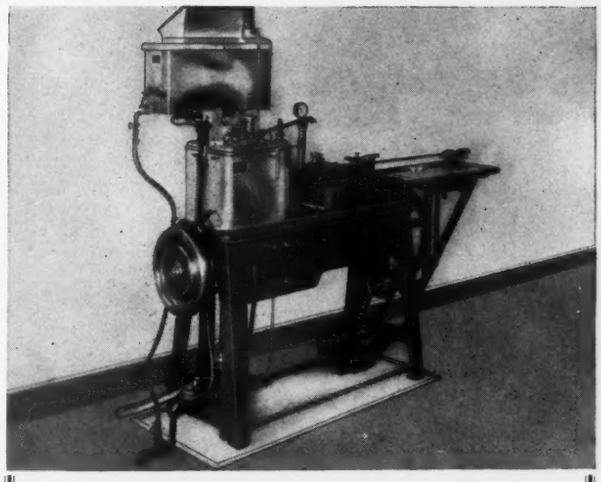
Sketch Elimination

Among the recent methods employed is that of direct color separation of the object by means of the three-in-one shot camera. Three negatives are thus made in one exposure, assuring correct register. The rendition of color values is said to be more nearly exact and therefore requires a minimum of color correction by the artist on the photographic plate. Various other processes like the Finlay and Kodachrome are also in use today. They all have for their purpose the mimimum of hand-work on the photographic medium thus retaining their natural values.

As all of the photo-litho work involves the photographer immensely, we shall pry a bit into that interesting phase of the process in our next.

NEW INTERTYPE MAN

Leslie A. Grubbs has been appointed to represent Intertype Corporation in the state of Kentucky. He is well known in the trade in that section of the country. Mr. Grubbs is a practical printer and typesetting machine expert. His most recent position in the technical end of the business was that of head machinist at the Huntington (W. Va.) *Advertiser*. More recently he has been selling machinists' supplies in the southeastern states.



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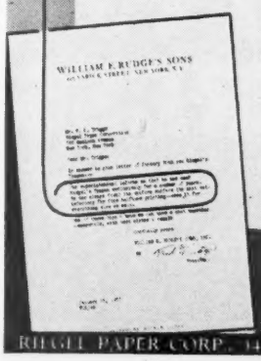

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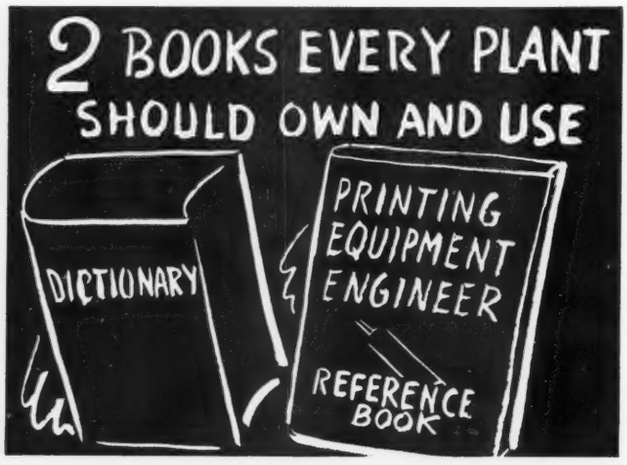

The "streamlined" typographic design of the Los Angeles *Times* which won the new Francis Wayland Ayer Cup for typographic excellence among newspapers, employs in its make-up several well-known ATF type faces. The specimen headings reproduced above show Tower, Stymie Medium and News Gothic Condensed.

PATENT ISSUED

As will be seen in the Patent Section of this issue of *Printing* Equipment *Engineer*, a patent on the spray process for eliminating offset was issued to The Atlas Power Company, as assignee of E. H. Bucy, on April 27, 1937, bearing No. 2,078,790.

The DeVilbiss Company of Toledo and The Paasche Airbrush Company of Chicago are licensed under the patent to manufacture and sell spray apparatus for use in the process.

In claim 3 of the patent, it is stated the method of preventing offsetting of printed sheets consists of forming a plurality of minute disconnected particles upon the surface of the sheets by spraying them with a solution of a cellulosic material dissolved in a volatile solvent, the solvent substantially entirely evaporating in the time of travel of the spray to the sheets, and the cellulosic material reaching the sheets in a tacky and adhesive condition.

Technical Conference

(*Continued from Page 48*)

cal Association of the Paper and Pulp Institute, presided.

Synthetic Rollers

The first paper, entitled "Progress and Problems in Printing Rollers," was given by J. C. Dunn, of the Vulcan Proofing Company. It was devoted principally to a discussion of the synthetic roller. In part, Mr. Dunn said "there are several types of synthetics which

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through use and publicity have become well known to printers. Others are being developed. These materials are used singly and in combination. Properly designed and formulated synthetic compounds have many desirable qualities which make them suitable for inking roller use. They are stable, not subject to rapid oxidation, are highly resistant to oils, solvents, and dryers, unaffected by seasonal and temperature changes."

Uses of Rubber Plates

J. B. Shaughnessy, of Woonsocket, R. I., talked on the subject of "Rubber Plates and Graphic Arts." He said that rubber printing plates are now being manufactured commercially for all classes of work. They have been found to be particularly suitable for use on cover stock, embossed papers of all types hand-made finishes, glassine, cellophane, celluloid, metallic papers, cloth, glass, tin, and other surfaces that ordinarily cannot be printed from metal plates or where perfect coverage without "mottle" and a minimum amount of ink is essential. Many offset houses having letterpresses are using rubber plates and are selling printing from them that cannot be distinguished from offset by the average printer.

Any type of ink may be used on these plates. However, those inks containing chemicals that are rubber solvents are, of course, most harmful to the plates. There is no such thing as an "oil-proof plate." All rubber when it comes in contact with a rubber solvent has a tendency to swell. Swelling gives "over-impression" and results in plate failure.

Letterpress Printing Pests

The concluding address was on "Rapid Drying Inks on Web-Fed Papers" by Charles MacArthur, Harrison, N. J. Mr. MacArthur said: "We may all agree that the major handicaps which hamper high grade letterpress printing are: The presswork pests, Set-off, Smear, and Smut, and Makeready, the so-called necessary nuisance. To differentiate between offset printing, and offset from printing, the term "off-set" is used, since it sounds rather silly to say, part of this offset job is offset, or part of this letterpress or gravure job is offset. Smear denotes that wet ink has been rubbed by some object, while Smut indicates a blurring of the first side printing, resulting from ink transferred to the impression packing, smut-sheet roll, or traveling tympan and confined chiefly to web-fed and sheet-fed perfecting presses."

Mr. MacArthur, who is an old-time pressman, added among other things that with respect to makeready little can be said that hasn't been said before. It is the subject of discussion, controversy and dispute in every language on earth where high-grade printing is produced. Printing without makeready is the fond hope of every press owner, printing salesman and cost estimator, and anyone who promises to print without makeready is sure of a hearing, especially so, if the listener has never operated a press.

"Every skilled pressman knows, however," said Mr. MacArthur, "that makeready is determined essentially by the printable condition of the form and the character of its subjects; the type of press; class of paper; number of impressions; customers' requirements and the ability to make ready when it is necessary.

"We realize that it is easier to criticize faults and deficiencies than it is to correct them, and nothing deflates the ego of a critic more effectively than to dump the fixing job into his lap. However, several reasonable questions relating to unnecessary makeready still remain unanswered such as: How long shall we continue to mount metal plates on wooden feet, to pound them on their heads, and sell engravings by proofs, not intended to print that way? Must press builders decrease inking facilities to increase press speed, and roller-makers sacri-

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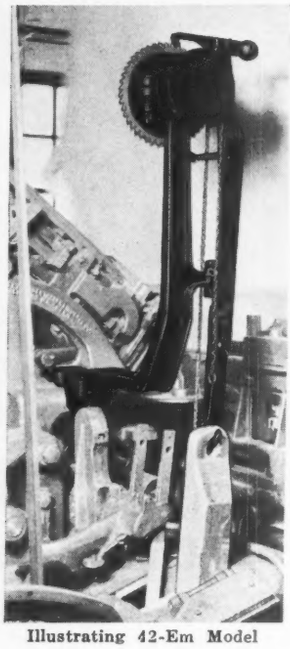

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fice inkability of rollers to improve their stability and durability? Cannot paper-makers find the most suitable printable surface for papers, and ink-makers the most favorable ink formulation for such a surface?"

Giegengack Presides

A luncheon meeting was held between the sessions on Friday. Hon. A. E. Giegengack, Public Printer, Washington, D. C., presided, and addresses were made by James H. Herron, President of the American Society of Mechanical Engineers, and Dr. Harvey N. Davis, President of the Stevens Institute of Technology.

New Official Board

The annual election resulted as follows: Council, 1937-1938—*V. Winfield Challenger, President, N. W. Ayer & Son, Inc., Philadelphia; George H. Carter, Vice President; Lanston Monotype Company, Philadelphia; *John Clyde Oswald, Secretary-Treasurer, Gregg Publishing Company, New York; *Charles F. Clarkson, International Printing Ink Corporation, New York; *Lewis Trayser, The Curtis Publishing Company, Philadelphia; *Burt D. Stevens, Miehle Printing Press & Manufacturing Company, Chicago; F. R. Blaylock, American Bookbinders Association, Washington, D. C.; W. G. Dodge, New York *Daily News*; *Edward Epstean, Walker Engraving Co., New York; H. J. Holtzclaw, Bureau of Engraving and Printing, Washington, D. C.; H. L. Gage, Mergenthaler Linotype Company, Brooklyn; A. E. Giegengack, Public Printer, Washington, D. C.; Wm. C. Glass, U. P. M.-Kidder Press Company, New York; Fred Hoch, Fred Hoch Associates, New York; W. C. Huebner, Huebner Laboratories, New York; T. R. Jones, American Type Founders Corporation, Elizabeth, N. J.; W. R. Maull, Dill & Collins Company, Philadelphia; E. W. Palmer, Kingsport Press, Kingsport, Tenn.; J. W. Park, Chicago *Tribune*, Chicago; Otto Kress, Institute of Paper Chemistry, Appleton, Wis.; R. F. Reed, University of Cincinnati; L. B. Seigfried, The *American Printer*, New York; H. M. Tillinghast, R. Hoe & Company, New York; Pierce T. Wetter, American Cutting Alloys, New York; J. Homer Winkler, Ace Electrotype Company, Cleveland, O.

The newly elected president called a meeting of the Council at a luncheon held at the close of the session on Saturday. Two committees were appointed—one consisting of Messrs. Fred Hoch, Charles Clarkson, T. E. Dalton, Wells Harvey and Summerfield Eney—on Standard Practices in the Graphic Arts. The other, a committee on education, was composed of Messrs. W. R. Maull, Harry L. Gage, and John Clyde Oswald.

*Executive committee.

TWO NEW BAUER FACES

It has been announced by the Bauer Type Foundry, Inc., that the cutting of two type series has been completed. Futura Bold Oblique is now furnished in sizes from 8 pt. to 60 pt. Futura Book has also

BOLD OBLIQUE
Which All Seek
FUTURA BOOK IS
Excellent Text Type

been completed in sizes from 8 pt. to 48 pt. As its name indicates, Futura was intended only for text purposes. Experiments, however, show that this new weight lends itself equally well for general usage, since it produces an even gray color. A four-page folder is available for the asking.

Production Control

(*Continued from Page 44*)

Other size rollers should be set accordingly. Rollers should be ground when the surface is distorted, regardless of size from swelling. Ghosting or reproduction of type matter in white over the printed form is caused by a roller that is nonresilient and is simply a case of the roller taking the impression from the type and not "coming back" to its original periphery in time for the next contact. Regardless of attempts to set the roller to overcome the difficulty, this condition remains. The remedy is to put in a good roller.

Fountains and Tanks

If of the conventional blade type, fountains should always be regulated carefully by the operator "cutting" color from the center out towards the ends and "putting on" color by opening the keys from the end towards the center. Obviously, this reduces the chance of buckling the fountain blade. With the ink pump type, each column control is individually adjustable. The old type well fountains should be cleaned often enough to guarantee a clean flow of ink. Paper and ink conditions govern this entirely, but twice a year should be sufficient. Don't neglect the storage tank either, when looking for dirt deposits.

Plate Clips

Plate clips should be watched carefully for springing and particularly the one-piece clamps which have a tendency to spring back on the ends. These often have to be spot-welded on the tips and refinished. Plate clips and bands should never be finished flush with the cylinder surface as in time the clips will lift the plates. Three thousandths below cylinder surface is O.K. In locking plates to the cylinder care must be taken not to lock them too tightly which usually results in springing the plate. By the same token, don't lock them too loosely and lose them on the run.

Folder Maintenance

The folder is the most intricate part of the press and should be treated carefully and inspected daily. On presses using a cam to turn the folding bars, care must be taken that the rollers riding on the inside of the guide ring do not break on the run because of crystalization. A careful inspection will show a starting crack long before it becomes dangerous. Collect cams wear quickly. The wear is aggravated if not caused entirely in some cases by the collecting pins "dragging" while passing through the fibre blocks in the cutting or collect cylinder. See that the pins are free. Wear in the collecting cam can be taken care of temporarily by putting larger rollers on the collecting pin crank. Pin crank cams on the large cylinder must be carefully inspected and care must be taken on this cam also to avoid undue wear caused by the binding of the folding pins in the cylinder.

On types of folders having the internal gear arrangement, see that keys holding the gears are always tight. A careful check may save a serious wreck. One make folder of the internal gear type is fitted with a bearing ring for the gears. See that it is riding the ring perfectly. In collecting large products it is often necessary to take a slight cut off the collecting cylinder and to spread the cutting and collecting cylinders apart enough to take the product. Experience teaches that to collect a completed paper of 80 pages on a 15 in. press it is necessary to cut the folding cylinder to 7.440 in. diameter

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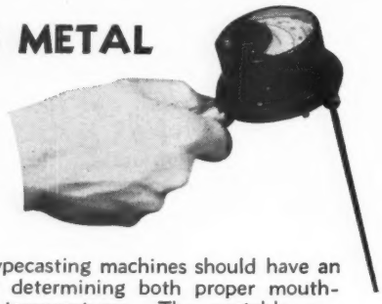

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and to spread the cutting and collecting cylinders apart at least 1/8 in. This of course necessitates raising the blades of the cutting knife and also causes the gears to be out of mesh a bit. Folding roller bearings also must be cut so that the folding rollers will take this additional paper without disaster. Some presses are equipped with choke releases and adjustable periphery collecting cylinders which make these operations unnecessary.

Escalators

In the installation of escalators, straight lines should be followed as far as possible. This does not mean escalators cannot be placed almost anywhere, but various sized products give variable results and straight-line operation is always best. Where possible, set the folio delivery up, unless prompt attention is to be given the removal of the papers from the delivery table in the mailroom. I have seen flymen in the mailroom permit six hundred 40-page papers accumulate before removal from the table with the result that the papers became disordered in delivery and a severe stress was put upon the press folder driving mechanism. One make of press delivers its product folded edge first through the escalators with excellent mailroom operation, but papers cannot be permitted to accumulate on the escalator table.

Lubrication and Wiping

All parts of a press should be lubricated regularly and if automatic lubrication is not supplied, then careful oiling of each and every moving part, before the press is gotten ready, is required. All heavy bearings should be oiled at least each 3000 revolutions and care taken by the operator to "feel" each bearing as he makes his lubricating rounds. This tells in advance which bearings need attention and possible adjustment.

Finally—and this is always of prime importance, even if it may seem trite—keep the press clean. A good system is to have each oiler wipe the section he oils, but at any rate, the crew is large enough and the time usually sufficient to permit wiping the press down from top to bottom each day and to grease the plate cylinders to prevent rusting.

Plates should be removed each night to save the blankets from the indention that is caused by carrying the impression at one spot all night or over the week-end—and rollers, even though rubber, should be eased off their set over night.

SMALLER "HOT SPOTS"

Where a "spot" of heat is required within a limited space, a new small cartridge-type heating unit, recently announced by General Electric, offers many advantages. The new unit, the smallest of the G-E line, is only 3/8 in. in diameter and is manufactured with brass sheath for maximum operating temperature of 750 deg. F. It is available in ratings of 30, 75, and 90 watts at 115 or 230 volts, a.c or d.c.

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Printers' Rollers
5 PURCHASE ST., BOSTON, MASS.
Every Type of Printing Roller a Printer Needs

Dirt and Dust

(Continued from Page 58)

should be early in the morning. The ink is too stiff and the rollers are too hard. Rollers set at such a temperature must be reset after noon when the room is warm. In some plants there is little heat in the day except that used to heat metal for type and slug-casting and that of the sheet heaters on the presses.

Summer also brings its troubles. Composition rollers swell. Paper, which in winter curls from dry heat, now curls from excessive humidity and a serious chain of trouble is caused when absorbent papers are printed because the ink cannot dry promptly. The paper absorbs so much moisture that it is saturated against penetration of the oil-varnish of the ink. The sheet heater and moisture-proof wraps for all colors except the last will again be found a preventive of much trouble. If the rollers swell too much it is possible to take the moisture out in an improvised drying room with cautious use of electric heaters and fans.

Irregular lots of paper can cause a world of trouble. The pressman has all adjustments made for the feeding apparatus necessary to send most of the sheets through, but every now and then (sometimes once or more often in a ream) a sheet or sheets come along curled in the opposite direction from the rest of the pile. The feeder fails to function and it is a matter of luck if a sheet does not get on the ink rollers or batter some part of the form.

Another irregularity is in the finish or surface of the sheets in a ream of paper. With some papers part of the sheets will have a soft and fairly absorptive surface while others are hard and glassy. Again, a standard brand of paper normally soft and absorptive is found at times to have a hard and glassy surface and even the resourcefulness of both ink-maker and pressman is taxed at times to suit the ink to such lots of paper.

A lot of litho label paper, coated one side, has been ordered and cut by the printer for a run of some size. Normally, this paper had given no trouble on the press as it had a soft and fairly absorptive surface. But this lot had a hard and glassy surface and no sooner had the run been started than the ink began to pile and did not leave the form clean. The pressman was using the ink which had been employed a number of times previously on this job. The press, rollers and makeready caused no trouble. Yet the ink refused to take on this lot of paper. The pressman had in the ink cabinet all the compounds recommended by his ink-maker and tried to condition the ink without success. It was now late in the afternoon. The paper salesman was called in. When he saw the finish on the paper he agreed that it was not what it should be and his company agreed to send a truck for the paper in the morning.

The incident appeared to be closed but the pressman was not satisfied. On his way home he recalled the name of an old-time pressman long since retired, who had given him pointers in the past. He stopped in to see the old-timer and told him the story. "Get a soupspoonful of balsam copaiba at the drug store, mix it well in the ink in the fountain and let me know how you come out," said the old-timer.

The balsam worked but is it any wonder, after all, that some are inclined to say there are no two sheets alike?

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Knives

(*Continued from Page 66*)

to casting and ejecting positions. If there is much wear in the studs and blocks, this function is destroyed and the various molds or even the same mold will be presented each time in varying relationship to the trimming knives.

Warped condition of mold body or cap, or both.

When a mold body has become warped, the constant or smooth side of the slug body is out of parallel relationship to the straight edge of the left-hand knife. In this case, it will be impossible to trim off the draw from the top of the slug to a straight line. If the left knife is set in to overcome this condition, too much metal from the slug body will be removed. As a consequence, the knife wiper cannot remove the thin metal shavings. The shavings left on the knife from the previous slug will adhere to the letter characters on the slug. The other condition set up by a warped mold body is that the "balance" of the slug as it is being pushed between the knives will be destroyed. The varying support of the left-hand knife will cause the slug to be trimmed irregularly by the right-hand knife.

The straightening and repairing of warped molds is a highly specialized process and should be done only by those possessing skill and experience. Repairing molds in the average composing room is out of the question because the machinist's time cannot be spared from maintenance duties.

Looseness in ejection lockup.

This means that when the mold disk has been advanced for ejection lockup, there should be no perceptible forward movement of the disk as the ejector blade first strikes the base of the slug in the mold. Keep the mold slide lever eccentric set up to prevent forward movement of the disk when the ejector blade first contacts the slug base. See that the mold banking blocks are in place and have not been ground below proper height.

Mold disk pocket seats.

Mold disk pocket seats apparently will be out of alignment with each other in case a disk has been sprung or warped. It is important that screwdrivers or other tools be kept away from the mold seating surfaces in order to avoid nicking them. A nicked mold pocket seat will throw the mold out of alignment with the other molds in the disk. In case it is necessary, onion skin may be used to bring a misaligned mold into proper relationship with the other molds in a mold disk.

Mold cap ribs.

Cases have occurred where mold caps have been ground without deepening the rib grooves a corresponding amount. In such cases, the slug more than likely will be bottled, *i.e.*, will be thinner at the bottom because of insufficient rib stock for the right-hand knife to trim. In some cases, especially an advertising figure mold, the rib grooves in the mold cap have been cut too deep. It pays to have the work done by competent workmen.

Mold not seated properly in mold disk pocket.

It is obvious that if dirt or metal chips are not removed from the pocket seat or the seating surface of the mold body that its position in relation to the other molds in the disk will be affected and the slug cast in that mold will not trim the same as the slugs from the other molds in the same disk.

In the case of a Linotype mold, careless repair work has resulted in one of the mold posts extending below the seating line of the mold.

First elevator-mold alignment out of true.

The first elevator should be maintained in parallel alignment with the mold at all times. If the matrix line cannot lock in parallel relationship to the mold, part of the draw may overhang the smooth side of the slug body and trimming difficulty cannot be avoided. The same effect will be obtained if the right side of the first elevator matrix alignment rail has become worn badly from frequent short-measure composition and the operator changes over to a wide-measure slug. The unworn portion of the aligning rail will function as the matrix aligning agency during the casting lockup. The matrices opposite the worn portion of the rail will sag down, part of the matrix casting cells will overhang the slug body and will cast an excessively overhanging projection at the top of the slug body.

Technical Literature
for June, 1937

The literature listed below will be sent gladly to any mechanical executive by the manufacturer. Simply fill in the coupon, check off the items you wish to receive and send it to *Printing* EQUIPMENT *Engineer*.

1—*P-Double-E File No. 7E*—"Gerrard Red Book of Carload Stowage" is the title of an illustrated booklet describing machine used for fastening shipments of printing machinery, newsprint rolls and paper on skids in freight cars. Pictures made from photographs of shipments packed in cars are shown.

2—*P-Double-E File No. 1G*—"Users Tell the Story" is title of booklet containing statements by users of Monotype system of composition.

3—*P-Double-E File No. 5L*—"A.P.S. Speed Cushion—The New Press Blanket" is a folder containing swatches of Speed Cushion and Kleerprint Drawsheet with descriptive text about the blanket. Folder also describes accessories for newspaper pressroom use.

4—*P-Double-E File No. 1U*—"Speeds Up Production" is the title of folder illustrating and describing malleable iron base and PMC Warnock Hook.

5—*P-Double-E File No. 2G12*—Folder entitled "What Every Stereotyper Should Know" illustrates and describes various kinds of formers and scorchers.

6—*P-Double-E File No. 5LL*—Illustrated reprint describes recent developments in C&P presses.

7—*P-Double-E File No. 6M*—Card illustrates and describes automatic electric glue pots which hold temperatures within 1 deg.

8—*P-Double-E File No. 1G5*—Folder entitled "Linotype Typographic Developments," showing latest matrix faces and special characters cut by Mergenthaler Linotype Company.

9—*P-Double-E File No. 5FF*—"Perforators, Scorers, Slitters" is title of folder illustrating and describing various kinds of units for all types of presses.

Printing EQUIPMENT *Engineer*,
1276 West Third St., Cleveland, Ohio.

Gentlemen: Please send the literature checked above without obligation.

Name of Company.....

Attention of.....

Position.....

Firm St. Address.....

City.....State.....

ATF EXECUTIVE CHANGES

Gerry Powell has been named manager of the type division of ATF. For a number of months Mr. Powell has been serving as counselor and advisor on type problems. The program has developed to such proportions that Mr. Powell will devote his full time to the promotion of the type business. Mr. Duff will continue in the department as assistant manager.

William Duboc has associated himself with the Hamilton Manufacturing Company, and takes up important executive duties as manager of sales development. He will develop new Hamilton products, and will contact ATF branches on sales plans and problems.

John Collins is appointed manager of ATF Sales Engineering Division. Mr. Collins has taken over full charge of the promotion of ATF Engineering service as manager of the sales engineering division.

C. M. Foss, as assistant in Chicago to Mr. Collins, will continue his work from that office and Messrs. Thoden and Peck will continue home office and field activities in line with John Collins' program.

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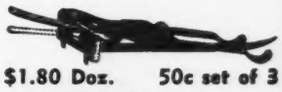

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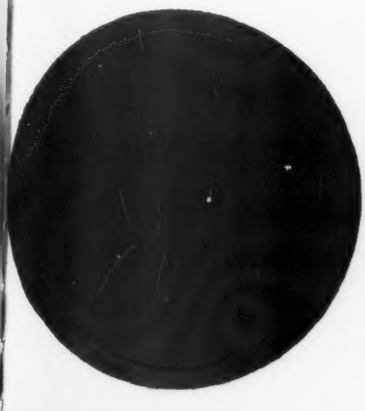

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